THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION

Vol. 41, No. 4 | 540 N. Michigan Ave., Chicago, Ill. | December, 1941

1942 NATIONAL CONVENTION—LOS ANGELES—WEEK OF JULY 5TH

★ ★ MERRY CHRISTMAS ★ ★

During the last ten years over $33,000 has been loaned to 120 deserving osteopathic students by the Student Loan Fund Committee of the A. O. A.

The sale of Christmas Seals to osteopathic physicians, their patients and friends, has been one of the principal sources of income. The Committee requests $1.00 for each sheet of 104 seals, but hopes that the average contribution will exceed that amount.

The names of all donors, professional and lay, who give $5.00 or more, will be published in the Forum of Osteopathy.

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By Otto Steinbrocker, B.S., M.D., Assistant Attending Physician; Chief, Arthritis Clinic, Bellevue Hospital, Fourth Medical Division, New York City. With Special Chapters by John G. Kuhns, A.B., M.D., F.A.C.S., Chief of Orthopedic and Surgical Service, Robert Breck Brigham Hospital, Boston, Mass. 606 pages, 6"x9", with 321 illustrations. $8.00.

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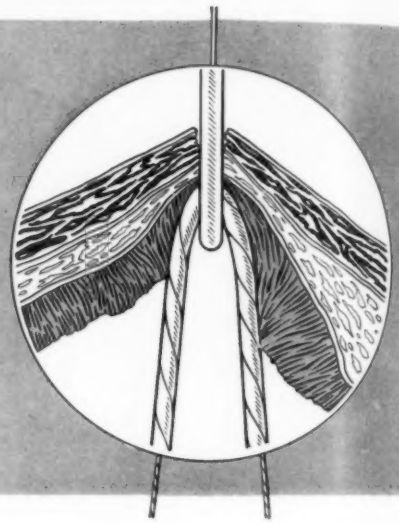

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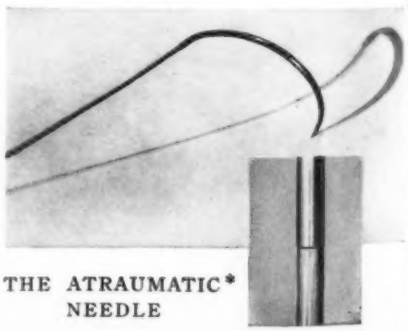

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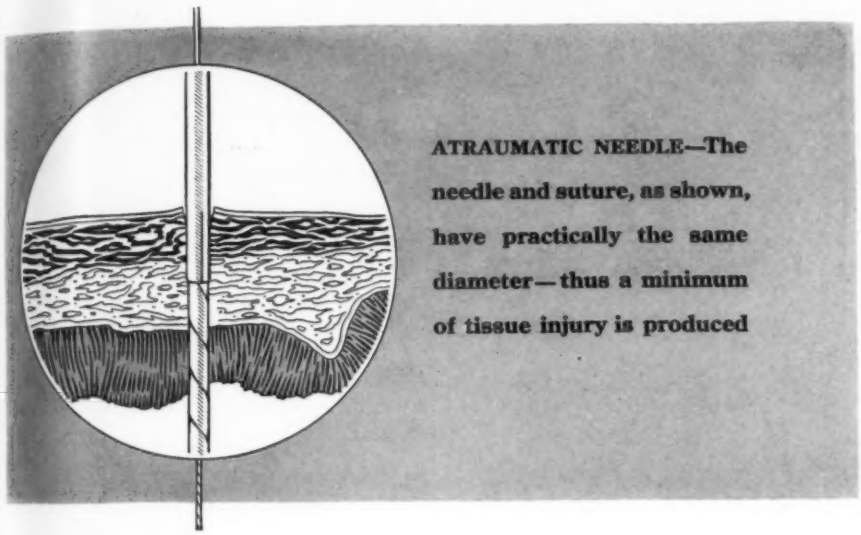

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Published monthly by the American Osteopathic Association. Office of Publication, 100 S. Marion St., Oak Park, Ill. Address all communications to the Main Office at 540 North Michigan Ave., Chicago, Ill. Eastern Advertising office, Lawrence B. Williams, Manager, 11 West 42nd St., New York, N. Y., telephone Pennsylvania 6-1949. Subscription $10 a year. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 31, 1922. Entered at the Oak Park, Illinois, post office as second class matter, April 1, 1926, under the Act of March 3, 1879.

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HOW DISEASE BEGINS
Ray G. Hulburt, D. O.
A clear logical discussion of the osteopathic concept, particularly the lesion, in language the layman can understand.

OSTEOPATHY FOR PNEUMONIA AND INFLUENZA
Michael A. Lane, B. Sc., D. O.
An authoritative article on these two germ diseases, showing how osteopathy stimulates the body's own inherent forces in combating it.

VITAMIN B AND THE NERVES
R. E. Duffell, D. O.
A subject of great popular interest today is discussed in this article, which describes the factors of Vitamin B Complex, their effects, and the foods in which they are found.

MAKE UP YOUR MIND
John C. Button, Jr., B. S., D. O.
Another of John Button's interesting articles, in which *foile de doute* is discussed in a way that will perhaps make you wonder about yourself.

JOINT INJURIES ARE TICKLISH THINGS
Russell P. Armbruster, D. O.
Most laymen do not know why osteopathic physicians excel at treating joint injuries. Dr. Armbruster tells them.

MARATHON TYPISTS RELIEVED BY OSTEOPATHY
G. Cunneliffe
The story of how a Toronto D.O. put disabled contestants in a typing marathon back into the contest and kept them there. Another triumph for osteopathy.

ADVICE TO SCHUSSBOOMERS
L. M. Thompson, M. D.
The author is Chairman of the Medical Committee of the National Ski Association. His article, which has the flavor of the ski slopes and woods in winter, gives good advice to amateurs in skiing.

Osteopathic Health No. 145 (Jan.)

O. H. No. 145 (JAN.)

THE BIRTHRIGHT OF OSTEOPATHY

This article explains the fundamental principles of osteopathy and tells why osteopathy should remain a distinct school of the healing art.

POSTURE AND ITS INFLUENCE ON HEALTH

An excellent article describing the effects of poor body mechanics on the internal organs and outlining the role of the osteopathic physician in correcting poor posture.

CHRONIC BRONCHITIS

The season for coughing is at hand. What the doctor of osteopathy does for relieving coughs is the theme of this story.

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The Journal of the American Osteopathic Association

PUBLISHED MONTHLY BY THE AMERICAN OSTEOPATHIC ASSOCIATION

Vol. 41, No. 4 | 540 N. Michigan Ave., Chicago, Ill. | December, 1941

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Electromyographic Studies of Structural Abnormalities*

J. S. DENSLOW, D.O., and G. H. CLOUGH, D.O.

Research Laboratory of the Still Memorial Research Trust

Kirksville, Mo.

The osteopathic lesion, since its discovery by Dr. A. T. Still,[1] has been thought to be characterized by muscle contraction or muscle tension.

The experiments that we will report have been done in an attempt to secure objective findings concerning the osteopathic lesion. Because electromyography makes possible a determination of the presence and character of muscle activity, this field was selected for a beginning study.

In 1903 the development of the string galvanometer by Einthoven made possible studies in electrocardiography, in electromyography, and in electroencephalography. The discovery of the vacuum tube brought about amplification with which exceedingly small currents (fractions of one-millionth of a volt) could be recorded.

Electromyography is defined as a method of recording somatic electric currents induced by muscular action. Carlson and Johnson[2] describe this activity as follows: "During activity a muscle fiber becomes a minute battery, with positive and negative poles, the latter at the active region, the former at any inactive region. The electrical potentials (called action potentials) developed are physically identical with the potentials developed in any battery. If the poles of such a living battery are connected by a conductor, a current (called an action current) flows. The current can be led through a suitable recording instrument which indicates the passage of the current and measures its magnitude."

Adrian and Bronk[4,5] demonstrated muscle action potentials from single motor units. A motor unit is described as being one motor neuron together with 100 to 200 muscle fibers which it supplies. Each muscle is composed of thousands of these motor units. When an impulse is passed over the motor neuron, all of the muscle fibers, which it supplies, contract practically simultaneously at a rate, usually, of 5 to 7 times a second. However, frequencies as low as 4 and as high as 40 have been seen.[6]

Muscle contraction is a result of voluntary effort, of reflex and of artificial stimulation. At this point, the question of the presence of residual muscle contraction in a normal resting muscle is of importance. Creed *et al*[15] state: "In the unstretched muscle no centripetal impulses are set up by the tension receptors. . . . If at first the muscle is at rest there will be no action currents. On passive extension of the muscle whereby the stretch reflex is elicited, small action currents begin at a rate of 10 to 25 per second." In the literature concerning experimental physiology as far back as 1925 there is an inference that in a normal resting muscle there is no muscle contraction. In that year Adrian,[3] discussing the interpretation of the electromyogram, pointed out the absence of muscle action currents as long as the muscle is completely relaxed. Adrian and Bronk,[4,5] in reporting the isolation of single motor units, discuss the electromyogram which characterizes muscle contraction. Their comments refer only to activity during contraction and leave the implication that there is no electromyographic evidence of contraction when the muscle is in the resting state. Lindsley[6] stated, "No electrical activity has been demonstrated at any part of the

* The experiments discussed in this article were described first by the authors in the *Journal of Neurophysiology*, Vol. IV, No. 6, September, 1941, under the title "Reflex Activity in the Spinal Extensors." The accompanying illustrations were used originally in the paper referred to and are reproduced here through the courtesy of Charles C. Thomas, Springfield, Ill., publisher of the *Journal of Neurophysiology*.

relaxed muscle." Smith[7] made a similar observation. Both sampled numerous areas of normal relaxed muscle and found no evidence of contraction. We have had the same experience in our laboratory. Repeatedly electrodes have been inserted in various parts of normal relaxed muscle. Except for occasional momentary contraction, following the introduction of the electrodes, no contraction has been found (See Fig. 1A).

The success of these experiments hinges on the absence of muscle contraction in a normal resting muscle. However, as this has been demonstrated repeatedly, we can assume that when contraction is seen in a resting muscle it must be due to reflex activity.

There have been numerous reports in the literature concerning action potentials accompanying artificially stimulated muscle, voluntarily contracted muscle, muscle tension in neuromuscular diseases and muscle tension occurring in the imaginary performance of tasks.[6,9,10,11,12] In addition, Jacobson[14] has reported extensive studies of muscle action currents in nervous and neurotic patients. Except for Jacobson's studies of neuromuscular hypertonus, and the material which deals with organic neuromuscular disease, observations of muscle action currents have dealt primarily with artificially stimulated or voluntarily contracted muscle. There have been no reports of muscle contraction except for changes noted by palpation.

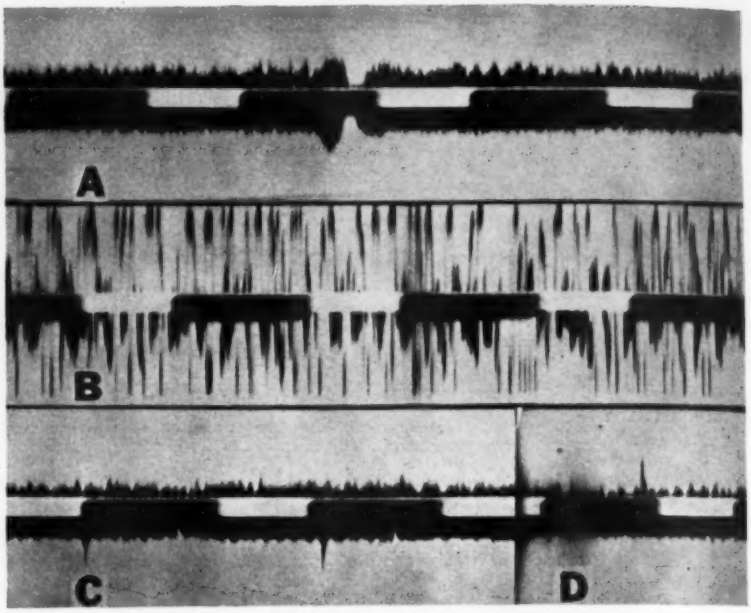

Fig. 1. Upper and lower tracings—concentric electrodes in two normal areas. (A) Subject relaxed at end of exhalation, the single blunt spike is the cardiac artefact. (B) Mild voluntary contraction of the thoracic extensors to demonstrate that both electrodes were in muscle tissue. This control (B) was used in all experiments. (C) Upper tracing—10,000 Ω resistor across input. Lower tracing—input of 10 μV from dry cell and voltage divider. (D) Reverse of (C). Time signal—0.25 sec.

The osteopathic lesion is characterized clinically by an increase in resistance to pressure deformation of the periarticular tissues of spinal, sacroiliac, and appendicular joints in certain cases which may have neither obvious organic pathology nor voluntary muscle contraction.

In the present study an attempt has been made by electromyographic findings to determine whether or not muscle activity underlies in part these clinical findings.

METHODS

Electrodes were placed on normal and lesion areas. Currents from these electrodes were led to dual high gain, 4 stage, resistance coupled, balanced amplifiers which drove either loud speakers for listening to the currents, a Sanborn cardioscope for visualization, or Westinghouse sensitive bifilar oscillographs for recording on electrocardiograph paper.

The electrodes were solder skin pads, hypodermic needles, or concentric needle electrodes. A concentric electrode consists of a hypodermic needle with a fine insulated copper wire placed in the lumen. The tip of the copper wire is bared at the bevel of the needle. Thus the tip of the wire and the shaft of the needle become two separate contact points. This permits a fine localization of pick up.

The concentric needle electrodes were used almost exclusively. In voluntary contraction a large number of motor units are picked up by these electrodes. However, in reflex contraction, such as is found in a lesion area, their pickup is usually limited to one or two units. Thus, it is possible to study the amplitude and frequency of a single motor unit in an area of reflex contraction.

The subject, in a copper screen room to shield out 60 cycle and other interference, was placed prone on an upholstered table which had a padded slot 3 inches wide and 6 inches long for the face. This permitted the head to be in the mid-line position.

Areas of lesion and normal control areas were selected by palpation. Electrodes were inserted into these areas in the erector spinæ mass. The electrodes and skin were treated with 70 per cent alcohol and the skin was anesthetized by intradermal injection of 1 to 2 cc. of 2 per cent procaine hydrochloride.

Recordings from these electrodes were made with the patient completely relaxed, in the fraction of a second between exhalation and inhalation and with the patient's head in the mid-line position. This was necessary because voluntary movement or even involuntary "tension", respiration, or an asymmetrical position of the head all result in muscle contraction. As has been seen, the base line of a recording from a normal resting muscle is "quiet." As the subject uses the muscles for any purpose, electromyographic evidence appears in the record (See Fig. 2). In this figure the electrode leading to the upper record is in an area of lesion and shows continuous activity. The electrode leading to the lower record is in normal area, and the base line, when the patient is inhaling or exhaling, is quiet. As the patient breathes, the activity in the spinal extensors appears in the record.

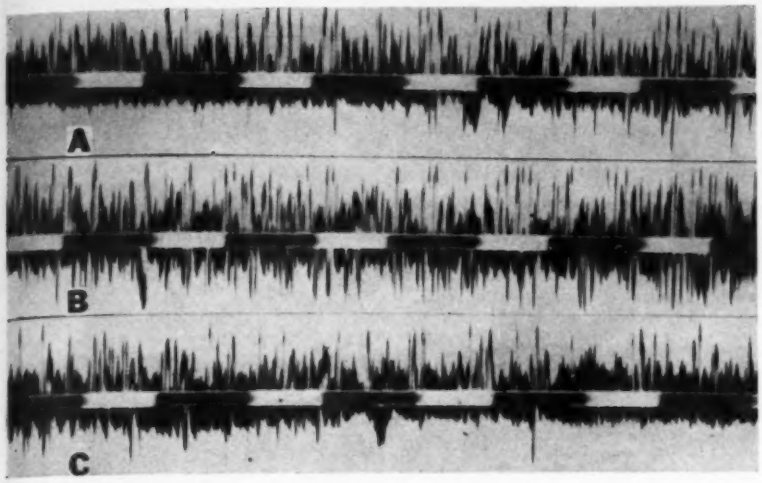

Fig. 2. Upper tracing—concentric electrode in lesion area. Lower tracing—concentric electrode in normal area. (A) Subject starting to inhale with thoracic type of respiration; (B) Subject at height of inhalation; (C) Subject at end of exhalation. Time signal—0.25 sec.

A simultaneous recording was made from a lesion area and from an adjacent normal area in each instance. The recording from the normal area served as a control to demonstrate that the activity of the lesion is local and not just part of a generalized muscular tension.

Twenty-five records were taken on 16 students and instructors in whom areas of lesion were found by palpation. All were free from gross disease except for one with mild attacks of asthma. All were carrying a full program of work. Each one, however, had a postural error in the form of either a slight lateral curvature or a lessening or an exaggeration of the normal anatomical curves. Some subjects gave a history of having had discomfort in the lesion area, others did not.

RESULTS

Localized motor unit activity was seen in a lesion area in 21 of the 25 experiments in this series. This activity or contraction is called a lesion reflex. That this activity was local and not merely a part of a generalized neuromuscular hypertonus is shown by the absence of activity in the control, an adjacent normal area observed simultaneously.†

The reflex activity in the lesion area varied in degree during each experiment. It ranged from occasional quiet periods through the activity of single units to that of many (See Fig. 3). There was no definite pattern to the increase and decrease of activity except that the quiet periods were more frequent when the subject first reclined, activity increasing as the subject became fatigued from being in the same position for 30 minutes or more. Both the number of active units and the frequency of single units were increased by respiration of the thoracic type, by mild voluntary contraction, and by involuntary tension. Involuntary tension was frequently a disturbing factor. This could be eliminated by talking to the subject, by telling him to take two or three breaths or to move a bit, or to relax until the activity heard in the speakers was reduced to a minimum.

The frequency of a majority of the single motor units in an area of lesion was from 6 to 10 a second. Single active units were seen at frequencies as low as three a second and as high as twenty-four a second. There was often a change in the frequency of the active unit in an area of lesion without apparent cause. However, the frequency of a single unit was invariably increased by one of the factors which have been mentioned.

INHIBITION

In individual instances a single active motor unit in a lesion area could be inhibited. The result of this inhibition might be in the form of a decrease in frequency of contraction of the active unit or the activity might stop entirely. This finding was discovered accidentally. As the rhythmic staccato firing of a single motor unit in an area of lesion was being followed in the loud speaker, the subject asked a question. As he talked the contractions slowed and stopped. When he ceased talking they immediately started again. To check this we had him count from 1 to 10. When he reached 2 or 3 the contractions had stopped and they picked up 2 or 3 seconds after he ceased counting.

Further experimentation revealed that a similar inhibition could be brought about by extremely slight voluntary contraction of the abdominal wall, by shallow respiration of the abdominal type, and by swallowing (See Fig. 4).

Several factors are necessary for the successful inhibition of the reflex activity of a single motor unit in an area of lesion. The most important is the strength or persistence of the reflex. In some instances this seemed to be borderline and the activity of a single motor unit came in and faded out. Slight changes in the position of the subject and momentary periods of voluntary contraction might result in a cessation of activity. Or the area might be quiet until activity was initiated by a slight movement of the skin about the electrode.‡

Inhibition produced by one of the factors mentioned, that is by counting aloud, swallowing, or contracting the abdominal wall occurred only in these areas where the activity was borderline.

Where the lesion reflex persisted without periods of inactivity, it could not be inhibited. Additional factors which mitigate against demonstrating inhibition are the presence of more than one or two motor

† In earlier work with only one instrument available a similar observation was made many times by rapid switching over from the electrode in the lesion area to the one in the normal area and back again.

‡ McKinley,[13] at the University of Minnesota stated, "As to the movements of electrodes producing action currents, no doubt that happens, and yet we have been able to place our electrodes in the muscles and then massage those muscles in rather lively fashion without any action potentials being developed whatsoever."

We have had the same experience. When the electrodes are in normal muscle the skin about them may be moved to a considerable degree without initiating muscle contraction.

units in the lesion areas and the inability of the subject to limit voluntary contraction to the flexor groups exclusively. Such subjects became tense when trying to follow instructions. In one subject, a single unit was firing in the lesion area. He swallowed, and the activity stopped for a few moments. He swallowed again and the activity stopped again. But when we attempted to photograph the finding he became tense. The single unit we had been following was smothered by the bursts accompanying the tension.

Because all of the factors which inhibit the lesion reflex produced mild flexion, it is felt that the flexion itself created an inhibitory factor. Whether the flexion was a result of contraction of the muscles of the anterior part of the neck or of the anterior abdominal wall seemed immaterial.

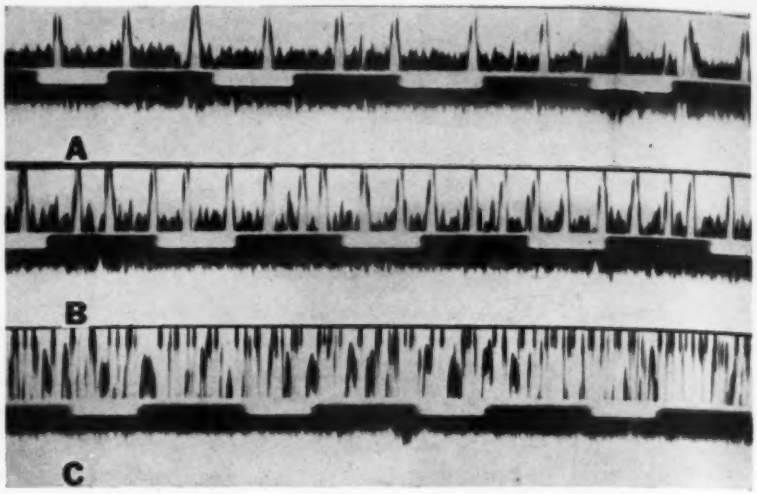

Fig. 3. Upper tracing—concentric electrode in lesion area. Lower tracing—concentric electrode in normal area. (A) Single active unit in lesion area; (B) Either an increase in rate of unit active in (A) or an additional active unit; (C) Numerous units active in lesion area. Time signal—0.25 sec.

ABSENCE OF ACTIVITY IN LESION AREA

In only four experiments no activity was observed in the lesion area. In each of these the observations were made over 30 to 60 minutes and the electrodes were slowly removed from the muscle and reinserted at least 6 times to insure against missing a small localized area.

POSTURAL REFLEXES

In the first experiments the subject was placed prone on the table with the head turned to one side. Inconstantly, and never in some subjects, varying degrees of activity were seen in the thoracic extensors on the jaw side while the vertex side was quiet (See Fig. 5). This might have been predicted as it is well known that through the attitudinal reflexes of Magnus and DeKleyn the extensors of the extremities are contracted on the side toward which the head is turned and relaxed on the opposite. We might deviate here a moment to recall that osteopathic physicians have automatically turned the patient's head toward them while they treated the side of the spinal column which is away from them.

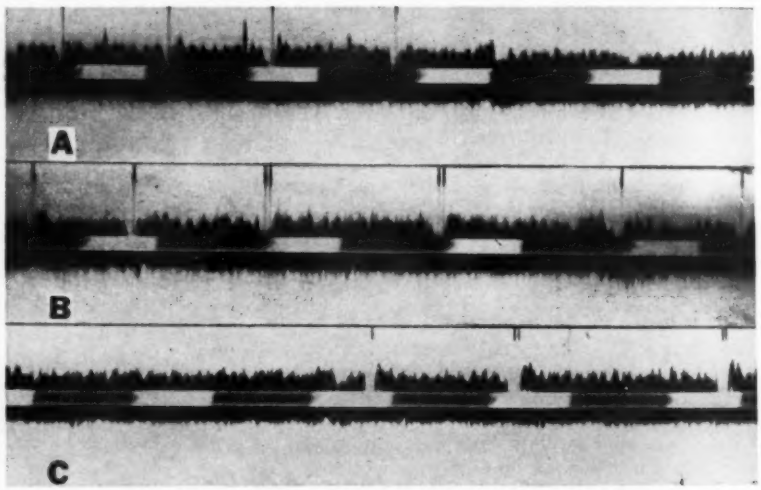

Fig. 4. Upper tracing—concentric electrode in lesion area. Lower tracing concentric electrode in normal area. (A) subject inhibited active unit in lesion area by slight contraction of anterior abdominal muscles; (B) Subject completely relaxed; (C) Subject had inhibited active unit by counting aloud, the record shows the unit coming back in. We have been unable to determine if the double spikes in (B) and (C) represent two active units or a peculiar double spike from one. Time signal—0.25 sec.

DISCUSSION

The motor unit activity demonstrated in lesion areas is local and is reflex in character. It is similar to the stretch reflex as described by Creed, *et al*[15] with exception of the finding of low frequency rates in 10 records. There is also similarity with the extensor response as first described by Magnus.[16]

The action potential findings in a lesion area have characteristics identical with those of the stretch reflex in its response to tensions and head positions. However, instead of being due to a stretch or to a turning of the head they were observed when the patient was completely relaxed, in the resting period of the respiratory cycle and with the head in the mid-line. The activity occurred in local areas where palpation revealed findings characteristic of osteopathic lesion. Hence, they represent a muscle contraction which could be designated as an abnormal reflex or, as we have called it, a lesion reflex. The difference between the stretch and postural reflexes and the lesion reflex lies in the cause of its development, there being no stretch or positional asymmetry in the lesion reflex. The cause is either a stimulation of tension receptors

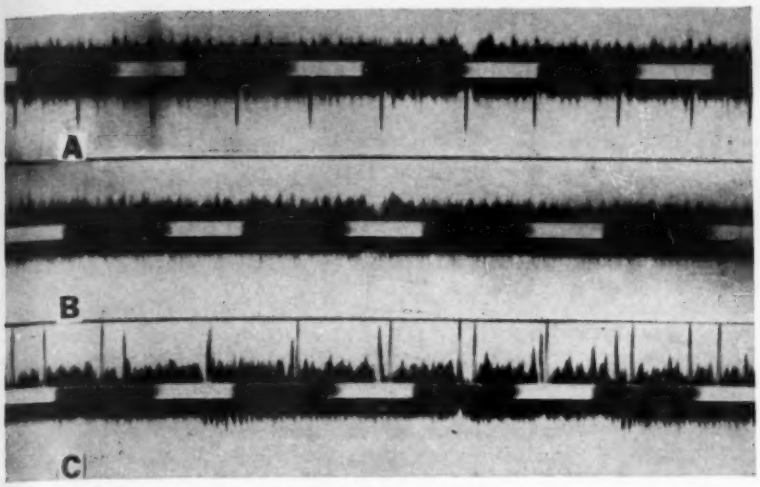

Fig. 5. This record is the first portion of the experiment shown in Fig. 4. The electrode of the upper tracings is in a lesion area, the one in the lower tracings is in a normal area. The active unit of the lesion area had not started to fire when this part of the record was taken. The upper tracing is of the right side, the lower of the left. (A) Subject's head turned toward the left; (B) Head in mid-line position; (C) Head turned toward the right. Time signal—0.25 sec.

within the muscle itself or stimulation of other receptors which are segmentally related.

Because the subjects did not have visceral disease and as palpable joint abnormality was present in the area examined, we feel justified in the view that the cause of the lesion reflex is the abnormal pressures and tensions developed in the functionally pathologic joints.

Joints which show some arthritic changes become stiff and uncomfortable when the patient reclines for an hour or more. They improve when he moves about. This is probably a parallel with our observation that at times more activity in a lesion area is not seen until the spinal articulations have been relatively immobile for some time.

In some experiments slight movement in the skin around the electrode was followed by motor unit activity while the control areas similarly treated remained quiet. Here the lesion reflex perhaps created an enduring subliminal central excitatory state in a motoneuron pool. The nerve cells in this area were stimulated by the impulses coming from the joint. The stimulation, however, was not great enough to reach a threshold level and, consequently, no motor unit activity ensued. However, when additional stimuli from an electrode movement reached the motoneuron pool which was established by the impulses from the lesion the combined effect of the impulses from the lesion and impulses from the irritation of the electrode were great enough to reach threshold level and motor activity was the result.

Conversely, activity of the lesion reflex was temporarily terminated by flexor activity, only when the neurons bombarded from the lesion area were apparently just above the threshold level. Not being strong they could be inhibited by the flexor reflex, which, all other things being equal, is stronger than that from the extensors.

There are several possible reasons why in several experiments no motor unit activity was found in lesion areas. The most likely was that there was none present at that time and that the apparent tenseness in the muscle was due to some factor other than muscle contraction. The scope of this paper does not permit a discussion of what that other factor might be.

SUMMARY

1. Reflex muscle activity, similar to stretch or postural reflexes, is seen in areas of lesion in the erector spinæ muscles when the subject is relaxed, the extremities in symmetrical position, and the head and face in the mid-line. Adjacent normal areas do not show motor unit activity. One or more motor units may be active, sometimes after a delay of 5 to 45 minutes after inserting the electrodes.

2. Single units discharge at rates of 2 to 24 per second.

3. A single active unit firing intermittently in the lesion area could at times be stopped by flexor contraction.

4. In a few instances motor unit activity was not seen in an area of lesion.

5. In some normal subjects muscle activity appeared in the spinal extensors on the "jaw" side when the head was turned.

ACKNOWLEDGEMENT

We are indebted to Drs. R. W. Gerard and C. Ladd Prosser for their encouragement, suggestions and advice.

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A Basis for the Diagnosis of Low-Back Conditions*

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The osteopathic profession has won its laurels by the skill of its finger tips. Palpatory diagnosis, prognosis based on palpatory findings, and reliance on the sense of touch to guide in the normalization of perverted structure have been the great tools of the osteopathic physician. The relative value of tissue tone, the feel of the skin, and the bony landmarks determine the palpatory findings. A thorough knowledge of the underlying anatomy is necessary in order to evaluate the impressions received through the finger tips. Unfortunately the anatomy of our training is static anatomy, learned through textbooks, drawings, and dissection on the cadaver, whereas the anatomy of our practice is dynamic anatomy in the living patient. In fact, osteopathic therapy is the result of Dr. Still's appreciation of the effect of anatomical activity upon body function and health.

Anatomy, from the static viewpoint, is a finished product. The body is built of known component parts and the sum total of these parts establish the whole, in set and unchanging form. Static anatomy has taught us to expect definite patterns which we think of as normal. Each bone should be exactly as portrayed in textbooks, with all the associated tissues constructed along definitely known lines.

Examination and re-examination of patients soon brings to light the fact that there is something wrong with this impression. Variations between different patients, and even in the same patient seen at different times, do not fit in with this picture of known and established patterns. We begin to realize that dynamic anatomy represents a continuing process of growth and destruction, that the bodies of our patients are always being torn down and built up, and that it is through a close balance between the processes of construction and destruction that health is maintained. Through x-ray findings we are proving that the bony landmarks are reliable only in a general way because allowance always must be made for the possibility of variation in structure.

The use of x-ray studies as a check on palpatory findings and to determine the cause of strains that our hands detect is rapidly increasing. It was given great impetus by the work of Hoskins,[1] Schwab[2] and more recently Kraus,[3] and others. Those of us who have become interested in Schwab's work on short lower extremity, or the subsequent writings of Pearson,[4] are using x-ray more and more to substantiate and to correlate our palpatory findings.

This increased use of x-ray examination makes us realize that textbook anatomy is seldom encountered in practice. It is the unusual skiagram that shows what is usually regarded as the normal standard. In many cases these deviations are so slight as to have little bearing on the management of the case, but frequently they are sufficiently marked to add an element of uncertainty to the prognosis. The region of the lumbar spine and pelvis is particularly prone to atypical findings, Structural variations of a type sufficient to alter the mechanics are discovered in the great majority of cases of low-back studies. There are two major reasons for this: first, the accepted fact that the low-back region of erect man is still undergoing evolutionary changes, and second, x-rays are seldom taken on symptom-free individuals.

There is a dearth of comprehensive osteopathic literature on these low-back abnormalities to aid the physician in outlining treatment for conditions brought on or exaggerated by these variations. Many anatomists and writers on therapeutics have mentioned the presence of anomalies. Orthopedists have developed and reported surgical treatment for many of these conditions, but little has been said concerning their effect on the treatment and outcome of the cases under osteopathic care.

It has been pointed out that the remarkable compensatory power of the spinal mechanism as a whole has dimmed the importance of the position of one section of the spine in its relation to the others.[5] The part played by each section of the spine regains its importance when these compensatory mechanisms begin to fail, or when osteopathic lesions, from postural imbalance with its consequent stress, exert their influence. The need for compensatory measures in the spine can not be satisfied unless the condition creating that need is understood.

We have criticized other schools of therapy for being satisfied with objective and subjective symptomotology. We believe that they should go beyond these symptoms and determine their cause. Back of a great many clinical symptoms we discover the condition which we have termed the osteopathic lesion, and, having found the lesion, we have been satisfied that we had arrived at the cause of the trouble. But an annoying question crops up continually. What caused the lesion? Many of them are brought about by trauma or by reflex from some distal irritation, but it is hard to believe that a person should be traumatized in the same manner repeatedly or that the same irritation to distal segmentally related tissue should be recurring constantly. It is apparent that behind every recurring lesion there is a cause—some primary cause—but not the same in all cases. This primary cause is most frequently disclosed by postural and x-ray study of the patient. It either lies in some faulty posture habit or in some variation in structure.

A series of 500 x-ray studies of the low-back region were reviewed to discover the frequency of anatomical and mechanical variations. This series includes 465 films taken in the weight-bearing or standing position and thirty-five taken with the patient supine. The majority, but not all, of the weight-bearing studies were taken because of a suspected difference in the length of the legs. While some degree of detail is sacrificed in the weight-bearing study, it is considered to give so much more "osteopathic information" that we are taking nearly all our plates in this manner, using the flat film to bring out bone detail where indicated. This series of studies was not a selected series. The films were taken from the x-ray files as they came, in order to afford a "run-of-the-practice" report. All the studies in this review were taken in the anteroposterior plane. No lateral studies were used.

* Delivered before the fall meeting of the Ontario Academy of Osteopathy, Toronto, September 26-27, 1940.

The conditions looked for and tabulated, if found, were the structural variations that might cause imbalance or instability, namely:

Difference in length of legs
Relation of the plane of the sacral base to the plane of the femur tops
Change in the angulation of the femur neck
Relation of the pubes at the symphysis
Relative size and shape of the innominates
Asymmetry of the sacrum
Lumbarized first sacral segment
Shape of the body of the fifth lumbar vertebra
Developmental changes in the transverse processes of the fifth lumbar vertebra
Variation in the number of lumbar vertebrae
Variations in the twelfth ribs
Changes in the planes of the articular facets
Lateral shift of the pelvis
Rotation of the pelvis
Increased pelvic inclination

Bone disease, arthritis, decalcification, etc., were purposely omitted in this review. While some degree of arthritic change and decalcification was frequently evident, the bearing of such change on manipulation was not included in this study. It is worthy of mention, in passing, that arthritic changes in the spine, especially of the osteoarthritic type, do not preclude manipulation. Intelligent manipulative therapy can be of great value in these cases. Caution must be exerted when the apophyseal processes are involved; and in all arthritic cases, the patient's reaction to manipulation must be closely watched. However, lipping of the bodies and calcium infiltration of the longitudinal ligaments do not prevent the occurrence of the lesion syndrome nor do they prevent correction.

The study of the lumbar compensatory curve and rotation in cases of unequal leg length was omitted because it has been very capably handled elsewhere.[4,5] Spondylolisthesis was not included because it can not be determined in the anteroposterior study. Lack of fusion of the neural arch of the last two segments of the sacrum was not tabulated. It was not considered to be of great importance when the review was being made. Since then, two orthopedic surgeons have been heard to express the opinion that weakness in the low-back region always occurs when this condition is present. The mechanics involved have not been explained.

The present study deals with anomalies, consequently the term "anomaly" must be understood. The common usage of the term in the therapeutic field, particularly as used in x-ray reports, signifies a structural change (usually bony) that has existed from birth or early development and is irrepairable. However, the term is defined in Dorland's medical dictionary as "marked deviation from the normal standard." This definition in no way limits the term to congenital or developmental deviations, nor does it imply that an anomaly is something that is beyond repair. According to this definition a functional condition such as a pelvic shift may be called an anomaly in that it is a marked deviation from the normal standard. Osteopathically, we are interested in the mechanical disturbance created by these deviations from normal; therefore, the term "mechanical perversion" would be more expressive of the osteopathic viewpoint.

Change in the actual shape and size of bones most often occurs during their development or growth. Once a bone is completely ossified its shape and size is not greatly changed (except through fracture or disease), nor is it susceptible to gross change. Difference in leg length, where there is no history of fracture, usually is due to changes in the rate of growth and they must have existed prior to the complete ossification of the epiphyses.

Of the patients x-rayed in the standing position, 72.8 per cent showed a difference in leg length. This figure does not denote the frequency of short lower extremity encountered in practice. The majority of these plates were taken of patients suspected of having some shortening. Examination for evidence of leg length difference has become a part of the routine examination of new patients and approximately one in three shows some evidence of short lower extremity. When this finding is associated with a history of recurring low-back symptoms, palpatory findings of lesioned regions, postural strain, slight scoliosis, exaggeration of the normal lordotic and kyphotic curves, x-ray study is demanded.

It has been shown clearly that difference in the height of the femur tops creates sacral imbalance, followed by an imbalance of the spinal column, a disturbance in the distribution of body weight, stress and strain that predispose to osteopathic lesions. Thus the body as a whole is affected by an inequality of leg length. Figure 1 shows the changes created. In the normal individual (1-A) the mid-heel line bisects the erect body. The iliac crests, the sacral base, and the shoulders are level; the spine is straight and body weight is equally distributed on both sides of the mid-heel line. The presence of a short lower extremity (1-B) creates a tilt of the sacral base, compensatory curvature of the spine, a disturbance in the balance of the pelvis and shoulder girdle, and a shifting of the body weight. I believe that this basic cause of trouble is understood and treated by the majority of osteopathic physicians.

Unfortunately, many limit their thoughts on the effects of short extremity to low-back conditions. The imbalance initiated by leg length difference is transmitted throughout the spinal column, sometimes in an S-curve and sometimes in a complete lateral curve. The body establishes a physiological compensation for this imbalance in most cases, especially those cases with no history of fracture. This compensation is finally destroyed by some minor accident or by the accumulated traumata of daily activity over a period of time.

Many of these patients develop fatigue, irritability and vague symptoms that beggar description. It is impossible to discover any organic or "name disease" in them. They are often labeled as neurotics. Correction for their short extremity relieves the strain that has been sapping their energy, their vague symptoms disappear, a renewed vitality replaces their fatigue and they stop worrying about themselves. These individuals had been falsely labeled as neurotics because the true cause of their trouble had not been recognized.

Specific regions of the body may be affected when the breakdown of compensation is localized. This may take place in any part of the spine. The nerve distribution from the region involved will determine the symptoms produced. Consequently any-

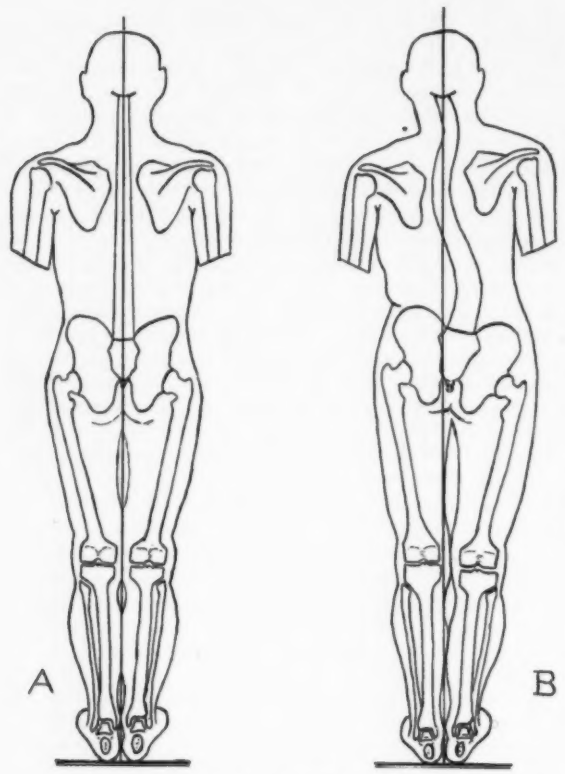

Fig. 1.—In the normal individual (A) the mid-heel line bisects the erect body. The iliac crests, the sacral base, and the shoulders are level. The presence of a short lower extremity (B) creates a tilt of the sacral base, compensatory curvature of the spine, a disturbance in the balance of the pelvis and shoulder girdle, and a shifting of the body weight.

thing from headaches to foot strain may be brought on as the sequela of short lower extremity. In those cases presenting a history of recurring symptoms in any part of the body, it is not only wise to look for a difference in leg length, but is is imperative if the patient is to be given the benefit of a complete examination.

Patients so frequently ask why there should be a difference in leg length that it might be well to consider some of the causes of unequal leg lengths. The most obvious cause is fracture of one or more of the bones of the lower extremity. However, it must be borne in mind that the fractured leg is not always the shorter. The use of traction in the reduction of the fracture or the increased circulation during the repair in the adolescent may result in lengthening. In the cases that give no history of injury it is more difficult to determine the actual cause of the inequality. Unilateral flat foot is one possible cause. A high arch in one foot would maintain that femur top at a higher level than would a flat arch in the other foot, all other factors being equal. Hyperextension of one knee, or conversely, the inability to extend one knee fully will change the relative height of the femur tops. These conditions are easily recognized and seldom encountered.

Minor injuries to the leg during the growing stage is the most likely cause of these unexplained differences. Harris and McDonald,[7] in reporting their work on section of the lumbar sympathetics, say: "It seems definite that prolonged increase in the blood supply of growing epiphyseal lines can cause them to grow more rapidly than would otherwise be the case." This prolonged increase in circulation may be the result of repeated minor injuries to one extremity, injuries that did not create sufficient distress to cause them to be remembered by the patient. Osteopathic lesions that interfere with vasomotor balance through the lumbar sympathetics or create soft tissue changes that interfere with the circulation in the extremities undoubtedly have a bearing on their rate of growth. The basic growth rate of the extremities is maintained by the cells of the epiphyseal cartilage as long as these cells are not destroyed. Alteration in the rate of growth is accomplished by the effect of muscle effort on metabolism, the trophic innervation of the limb, and the amount of blood supplied to the limb. Orthopedic surgeons are cutting out the lumbar sympathetic ganglia on the side of the affected leg in cases of post-poliomyelitic shortening. They are doing this to remove the vasoconstrictor action of these nerves and thus create a maintained hyperemia of the limb. This stimulates growth in the short leg so that in some cases the leg lengths have equalized.[7]

The results so obtained would indicate the advisability of looking for causes of increased vasoconstriction in cases where the shortening is not the result of a known condition. Burns[8] has told us that when the arms and legs are affected by spinal lesions, it is the nutritive and vasomotor nerves which are primarily concerned. Chronic osteopathic lesions of the lumbar region in the growing child may be responsible for the difference in leg length.

The right leg was shorter in 54.9 per cent of the patients with unequal extremities, the left leg being shorter in the remaining 45.1 per cent. The inequality varied from one-eighth inch to one and one-half inches. The shortening most frequently encountered was three-eighths inch.

The angulation of the neck of the femur was found to vary widely in different patients and frequently in the two femurs of the same patient. To quote Gray's "Anatomy"[9]: "The angle is widest in infancy and becomes lessened during growth. . . . In the adult, the neck forms an angle of about 125 degrees with the shaft of the femur, but this varies in inverse proportion to the development of the pelvis and the stature." This variation, in our series, ran from approximately 90 degrees to approximately 170 degrees. The exact degree of angulation is believed to be of slight importance as long as the two femur necks are alike. Different angulation in the same patient, as shown in Figure 2, is considered a factor causing imbalance. The distance between the proximal and distal weight-bearing surfaces of a femur with a neck angulation of 132 degrees will be greater than that of a femur with a neck angulation of 114 degrees, all other factors being equal. This change in the overall length of the femur may cause or compensate for a total short lower extremity. Apart from the relative length of the legs, difference in the femur necks will cause a mechanical imbalance in dynamic posture. The greatest part of the stride in walking is created by the femur swinging in an arc about the acetabulum. The arc created by a femur with a 132 degree neck would be sufficiently dissimilar to the arc created by a femur with a 114 degree neck to bring about a slight error of locomotion. Schwab told us: "The

Fig. 2.—To show different angulation of femur necks, as marked.

process of locomotion in the human subject requires distinct expenditure of energy. It is a work process and requires or causes effort by practically all axial and trunk structures. Lower extremities, upper extremities, trunk structures and even cervical and head units participate in the process."[10] The slight difference in gait resulting from the unequal femur neck angulation over a period of time will bring about a difference in the muscular development between the right and left sides and alter the distribution of body weight.

The angles of the necks of the two femurs in the same patient were unequal in 14.6 per cent of the cases. No definite degree of angulation was set as normal, but, when there were unequal angulations, the abnormality was classified by the one farthest from the 125 degrees angle described by Gary.[9] For example, Figure 2 shows one femur with an angle of 132 degrees and the other with an angle of 114 degrees. This case was classified as having an acute angulation because the acute angulation is the farthest from Gray's normal. Unilateral obtuse femur neck was observed in twenty-one cases on the right side and in twenty cases on the left. Unilateral acute femur neck angle was seen in twenty-two cases on the right and ten cases on the left. Difference in the actual length of the right and left femur neck also was noted, but not tabulated. The mechanical change would be similar to that produced by different angulation.

No one part of the body can be selected as the most important single factor in the maintenance of health or in the production of perverted physiology. Various aspects of body mechanics are so closely interrelated that balance throughout must be sought. A stubbed toe, over sufficient time, can cause an error of locomotion that may effect a slightly spastic thoracic region and produce gastrointestinal symptoms, or the effort to protect an injured shoulder can establish enough imbalance to bring about a lumbosacral lesion. One structural variation may be compensated by another or, on the contrary, a second mechanical perversion may be a retrogressive change developing through continued strain.

There is an increasing tendency to consider a level sacral base as all important when dealing with short extremities. Leveling the sacral base is important in neutralizing the cause of poor posture and mechanical imbalances that produce strain. More than half of the cases of short extremity (see Figure 3) show a tilt of the sacral base corresponding to the difference in height of the femur tops. The application of lift on the low side is an attempt to bring the sacral base to a level plane. Of the cases with unequal leg lengths 46.4 per cent were of this type.

The atypical case, in which the plane of the sacral base does not correspond with the plane of the femur tops, is another problem. Of the short extremity cases

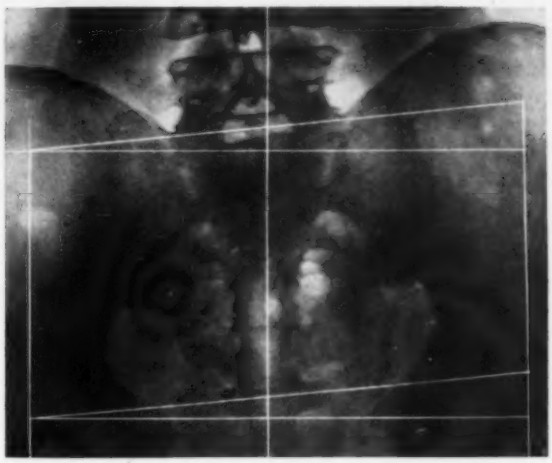

Fig. 3.—To show relative planes of sacral base and femur tops, as marked.

28.7 per cent presented an increased sacral tilt, as in Figure 4. The plane of the sacral base was tilted the same way as the plane of the femur tops, but to a greater degree. The sacral base showed less tilt than the femur tops in 15.7 per cent of the cases, and was tilted in the opposite direction, low on the side of the long leg, in 9.1 per cent. These variations in sacral tilt must be due to some factor in addition to the unequal femur tops. It is possible to demonstrate the cause in some of the cases. Such things as asymmetrical sacrum or a difference in the size or shape of the two innominates can frequently be shown on the film. In other cases, no apparent cause can be seen. The fact that the cause of the discrepancy between the planes of the sacral base and of the femur tops can not be shown does not mean that it is non-existent. It makes us realize that there is still a lot to be learned about the mechanics of the pelvis.

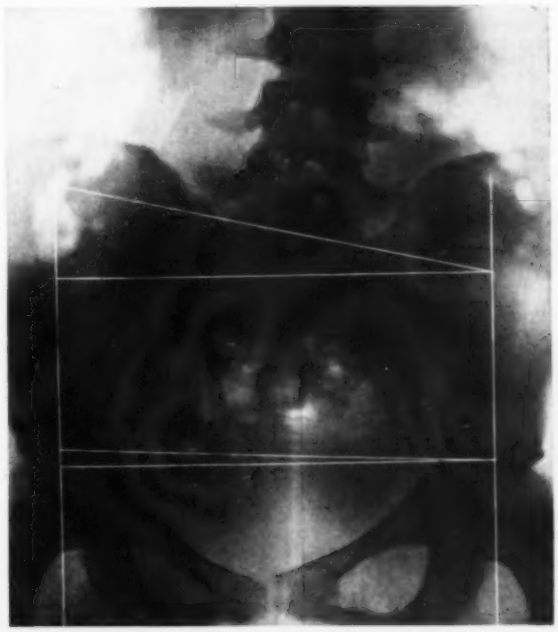

Fig. 4.—To show greater tilt of sacral base plane than femur top planes, as marked.

Fig. 5.—Equal extremities with sacral tilt.

There were 103 cases in this series in which the femur tops were level. The sacral base should be level in the normal pelvis with no leg length difference, but 45.6 per cent of these cases showed a tilt of the plane of the sacral base. (see Fig 5) As with the atypical cases mentioned previously, the cause of the sacral tilt could be demonstrated in some of these but not in others. The majority of these cases presented clinical and palpatory symptoms suggestive of short lower extremity. They were treated as short extremity cases with good results.

Both Schwab and Pearson have warned against the use of lifts in short lower extremity cases where the sacral base is level and the lumbar spine is straight. We have encountered several cases in that classification that presented symptoms involving higher spinal regions. Their histories revealed recurrent back trouble and the clinical picture was analogous to the typical short extremity case, except that their symptoms referred to the upper rather than the lower part of the spine. Lifts have been applied in these cases with a complete disappearance of symptoms. In some of them the lifts were then removed and the symptoms returned after a short period. Our findings have convinced us that these cases should be handled as typical short extremity cases, care being taken not to overcorrect, and follow-up x-rays used to be sure that the lumbar balance is not disturbed.

The sacral base is seldom clearly defined in the standing film. Frequently the body of the fifth lumbar vertebra is not discernible. This is undoubtedly due to an increased lumbar lordosis causing a superimposition of the shadow of the body of the fifth upon the shadow of the body of the sacrum. The body of the fifth can be clearly shown in these cases by lateral or supine views. Figure 6 shows a spine in which the bodies of the third and fourth lumbar vertebrae are clearly seen. No outline of the body of the fifth can be seen. The ala of the sacrum are distinct but the outline of the body of the sacrum is vague. Consequently the plane of the sacral base is determined approximately rather than marked

Fig. 6.—To show distinct body of fourth lumbar and of sacrum, but no body apparent to fifth lumbar.

with certainty. There is the possibility of error or misconception as to the actual base of support. X-ray findings must always be correlated with clinical and palpatory findings.

The pubes should be even at the symphysis in the anatomically normal pelvis. Platt[11] calls attention to the fact that rotation of the ilium on the sacrum would necessitate an exaggerated movement of the pubis at the symphysis. The rotation of one ilium and not the other would demand that one pubis describe an arc of motion while the other remain still. Antagonistic rotation of the two ilia would double the antagonistic motion at the symphysis. Pitkin and Pheasant[12] describe sacroiliac motion as follows: "In the presence of an intact symphysis pubis all motion of the innominate bones about the transverse axis of the sacrum . . . must be paired motions. Antagonistic motions of this type would rupture the symphysis and are possible only when the symphysis is relaxed or torn. Movements of the pelvis, other than flexion and extension about the hip joints, are associated with unpaired antagonistic motions of the innominate bones about a transverse axis that passes through the center of the symphysis pubis." These conceptions of pelvic anatomy and pelvic mechanics do not coincide. Platt undertook to substantiate his argument against sacroiliac movement by the statement that the altered position at the symphysis was not shown in x-ray examination. Figure 4 shows altered public relation and this alteration, in varying degrees, was seen in 33.6 per cent of the cases of this series. None of these patients was conscious of pain or discomfort at the symphysis.

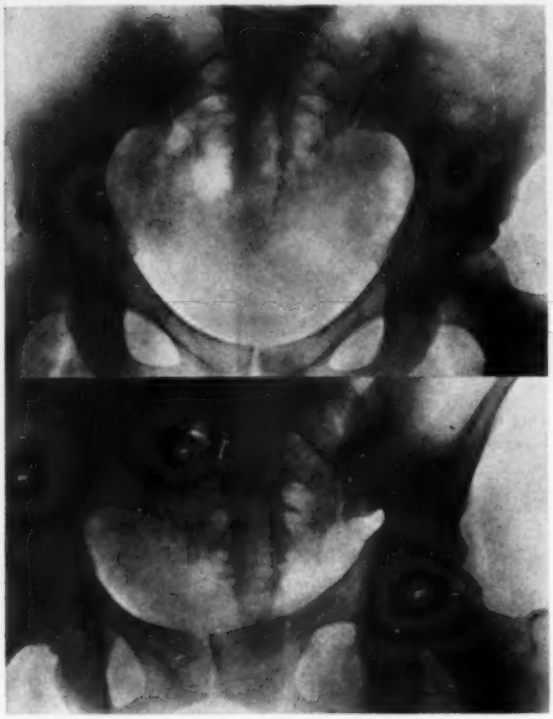

Fig. 7.—To show factor of distortion.

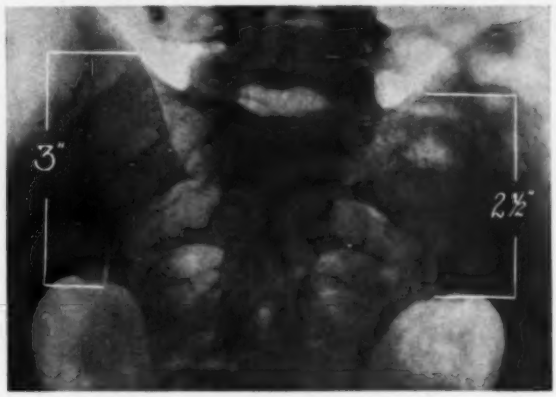

Fig. 8.—To show asymmetrical sacrum.

Symmetry between the two innominates is essential to balanced transmission of body weight from the spine to the extremities in the erect position. Change in either the size or shape of one innominate as compared with the other would alter the balance of stress carried by the two bones. The balance of the sacrum also would be disturbed if the two innominates were unequal. This condition does exist and has been demonstrated clearly in this group of studies. Innominate inequality was clearly shown in 3 per cent of the cases, with the right innominate smaller than the left in nine cases and the reverse in six cases. These figures are very conservative, as doubtful cases were not included. Variations in the two innominates are difficult to determine accurately unless the condition is marked. Slight rotation of the pelvis carries one innominate farther away from the plate than the opposite, and thus increases the factor of distortion. Slight error in the positioning of the patient can create a frightening amount of distortion.

The two views shown in Figure 7 are of the same person. The lower view was taken first, in the free standing position. The distortion shown when the film was developed did not correspond with the palpatory findings so the upper view was taken with a compression band supporting the patient. The usual care was taken in positioning the patient for the lower view, but she changed that position before the film was exposed and the distortion apparent in this plate is due to faulty positioning rather than to faulty structure.

The weight of the trunk, head, and upper extremities is transmitted from the lumbar spine through the sacrum to the pelvis and lower extremities. Normal sacral function is essential to the integrity of the body, both in dynamic posture, when the body is in motion, and in static posture, when the weight is being transmitted to the pelvis in sitting or standing. Function depends on structure. Consequently normal structure of the sacrum is of great importance. Of the sacrums seen in this series 23.3 per cent were asymmetrical (See Figure 8). Again this figure is conservative. The sacrum is curved anteroposteriorly, therefore any rotation of the pelvis would bring one side of the sacrum closer to the plate than the opposite and the factor of distortion would be altered. Doubtful cases, wherein this factor may have existed, were not included. The sacrum was small on the right in 8.2 per cent of the cases, small on the left in 14.6 per cent, and generally malformed in 0.4 per cent. There is a wide variety of shapes shown by the sacrum in different individuals. No one pattern was considered normal. Regardless of the general outline of the sacrum, it should be formed so that a sagittal mid-line will reveal two equal halves with the sacral base lying at right angles to the mid-line. The right and left halves should afford an equal amount of strength and support. The above figures refer to cases in which a sagittal mid-line revealed the two halves to be of different size and shape.

The fifth lumbar is credited as being the most frequently distorted structure in the human body. The body of the fifth lumbar is not discernible in a large number of the standing studies. This is undoubtedly due to the factor of lordosis changing the position of the body so that it is obscured by the shadow of the sacrum. The body of the fifth was not seen in 26.3 per cent of the cases in this series. Of the films in which the body of the fifth was visible, thirty-five per cent displayed a change in the morphology of that vertebral body (Figure 9). The body was small on the right in thirty-five of these, small on the left in sixty-five and generally malformed in twenty. The most frequent abnormality was a discrepancy between the vertical diameters of the right and left sides of the body. The left side was small nearly twice as frequently as the right. The majority of the generally malformed bodies were of a trapezoid shape as seen in the anteroposterior view. The top of the vertebral body appeared to have slid laterally.

In addition to the frequent findings of morphological changes in the body of the fifth lumbar, changes in the transverse processes and the neural

Fig. 9.—To show change in shape of body of fifth lumbar.

arch were often encountered. The transverse processes showed a wide range both as to size and shape. The length of the transverse process would, to a great extent, determine the amount of leverage afforded to the muscles attaching thereto. A long transverse process on one side with a short transverse process on the other side would disrupt the balance of muscle pull on that segment. However, this variation was not tabulated as no satisfactory standard could be established.

There were twenty-eight cases (5.6 per cent of the total) in which one or both of the transverse processes of the fifth had enlarged in such manner as to impinge upon the ilium or sacrum or both. Of these sacralizations, 50 per cent were unilateral as in Figure 10 (six on the right, eight on the left) and 50 per cent were bilateral. The transverse process formed an articulation with both the ilium and sacrum in the majority of cases. One case was seen in which just the sacrum was involved, and one case shows the sacrum and what should be the fifth lumbar completely fused (Figure 11).

Willis[13] points out: "In early fetal life the ilia, developing in the hindlimb buds, approach the vertebral column and become attached to the transverse processes of one or more vertebrae. These, assuming such special responsibility, enlarge, fuse, and become the sacrum. The points of attachment become the sacroiliac joints.

"Within each animal species there is variation as to the particular vertebrae with which the ilia articulate, and this variation is frequently bilaterally asymmetrical. In addition to such individual variability, there is either progressive or retrogressive fixation of the pelvic complex to the vertebral column, appearing in different zoological species derived from common ancestral types.

Fig. 10.—To show unilateral sacralization.

"In the evolution of man, the pelvis has progressed toward the head by incorporation in the sacrum of successive last lumbar vertebrae, the next preceding segment thereupon assuming the characteristics of the last lumbar segment. . . . "

Sacralization of the last lumbar vertebra is considered evidence of evolutionary change in the accommodation of man to bipedism. Several phases of this change are seen in different types of sacralization. Bilateral sacralization does not create as much mechanical imbalance as does the unilateral type. Lumbosacral momement is restricted in the bilateral type but, with normal posture, the joint is strengthened by the accessory bony support. In the unilateral type, this bony support is afforded to only one side of the last lumbar segment. Lumbosacral motion is not only restricted, but also the type of movement is changed. This coincides with the findings of Long,[14] who said: "It is probable that the alteration in the character of motion has a great deal more to do with inducing the reflex circumstances capable of producing distant physiological alteration than the element of restricted motion alone."

There was evidence of lack of fusion with a joint space between the first and second segments of the sacrum in ten cases. This condition should not lead to any great change in the pelvic mechanics as the first segment articulated with both ilia in the usual manner. A change in the sacroiliac articulation would accommodate for the individual segment. The increased strength of the completely fused sacrum would afford more secure weight-bearing, but there is no evidence of weakness from the lack of fusion in the case of lumbarized first sacral segment.

Neural arch changes in the lumbar and sacral spine are frequent findings. The type which probably causes the greatest (but not most frequent) amount of mechanical stress (spondylolisthesis) can not be demonstrated in the anteroposterior view, consequently its incidence can not be determined in this series.

Spina bifida is defined as a congenital cleft of the vertebral column with meningeal protrusion, while spina bifida occulta is defined as that spina

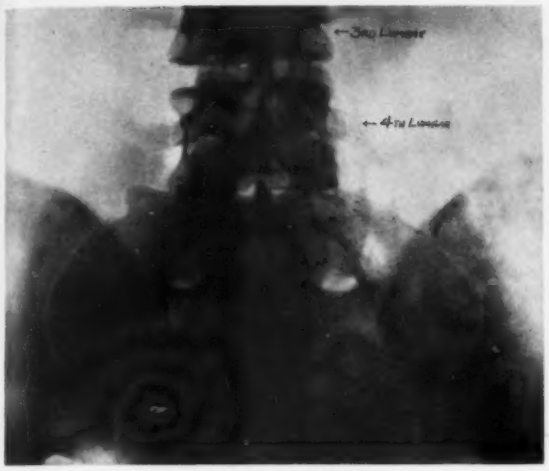

Fig. 11—To show fused fifth lumbar.

bifida in which there is defect of the neural arch without protrusion of the cord and its membranes.[15] Defects in the neural arch of the last lumbar and of the sacral spine usually come under the latter term, as the cord normally ends at the level of the first or second lumbar. These defects range from complete lack of fusion of the lamina with a wide gap between the two sides, to imperfect fusion where there is no actual gap but a distortion in the contour of the neural arch. The full range was included under spina bifida occulta in this series. The mechanical effect of complete lack of fusion and abnormal fusion would differ only in degree. Both would furnish poor attachment for the ligaments (ligamentum flavum, interspinal and supraspinal ligaments) and the muscles (sacrospinalis, multifidus spinae) that normally attach to the laminae and spinous processes.

The first sacral segment was the most frequent site of spina bifida occulta. Twenty-two and six-tenths per cent of the films revealed abnormality of the neural arch of this segment (Figure 12). Frequently the lesion would be sufficiently extensive to involve the second sacral segment as well, while in at least one case the neural arches of the first three segments were not fused. Several cases in which the neural arch of the first two or three segments was normal showed a lack of fusion in the last two segments. This abnormality was not recorded.

Spina bifida occulta of the fifth lumbar was not seen as frequently as had been expected. Only 2 per cent of the cases presented this lesion and the majority of these were abnormal fusions rather than lack of fusion. Cases in which the body of the fifth lumbar seemed to have disappeared have been mentioned. The neural arch in those cases was clearly visible.

To quote Willis[13] again: "At present, the human spinal column has a modal number of twenty-four presacral segments, varying to twenty-five in 3.5 per cent and to twenty-three in about 1 per cent." This numerical variation was discovered in 1.8 per cent of the cases of this series. The simple addition to, or subtraction from, the length of the presacral column does not impart a great mechanical handicap to the spine. In many of the cases of supposed variation of the number of lumbar segments it will be found that the actual variation is in the number of ribs. There will appear to be six lumbar vertebrae when the twelfth ribs are absent or only four lumbars when a supernumerary thirteenth rib exists. This factor can be determined accurately only with complete spinal studies.

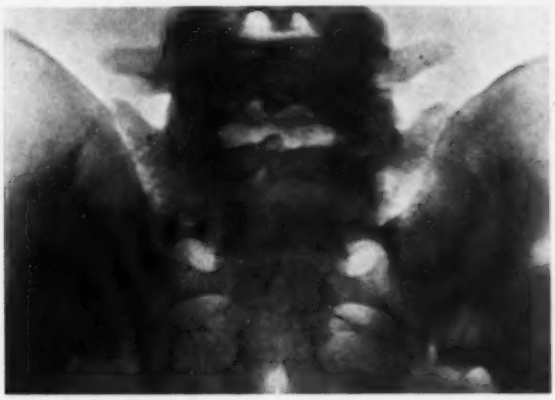

Fig. 12.—To show spina bifida of first sacral segment.

Five muscles are attached in part to the twelfth rib. They are the diaphragm, the internal and external abdominal oblique, the transverse abdominal, and the quadratus lumborum. Most of these muscles have multiple attachments and wide variations are found to exist in some of them. All of these muscles are involved in the maintenance of good body posture. Infantile, absent, or malformed twelfth ribs would permit imbalance in the effect of these muscles on the trunk. In 13.6 per cent of the cases in which the lower ribs were seen, there was some abnormality of the twelfth rib. The most common abnormality was an infantile or rudimentary rib, while a few cases presented a twelfth rib of abnormal shape. When infantile ribs existed bilaterally (as they did in 41.3 per cent of the abnormal rib cases) the altered mechanics of the muscles would be similarly disturbed on the two sides. Thus balance would be maintained. Unilateral infantile twelfth rib would be more apt to produce mechanical imbalance, with the musculature on the side of the normal rib more efficient than that on the side of the infantile rib. It is probable that this unilateral type of rib change predisposed to mechanical imbalance in the twenty-seven cases where it was seen.

The type and range of motion of a joint is largely determined by the plane of the articular surfaces making up the joint. The planes of the articular facets of the lumbar and lumbosacral spine vary greatly in different individuals, in different segments in the same individual, and in the two sides of the same segment. These variations have been classified roughly by different writers into three main types, as shown in Figure 13: *(A)* the sagittal, *(B)* the coronal, and *(C)* the dorsal. The sagittal type is that in which the apophyseal surfaces approach the anteroposterior plane, whereas the facet surfaces more nearly approach the lateral plane in both the coronal and dorsal types. These two types differ in that the coronal type presents curved surfaces while the surfaces of the dorsal type are more nearly flat.

Authoritative reports on spinal movement credit the lumbar spine with flexion, extension, sidebend-

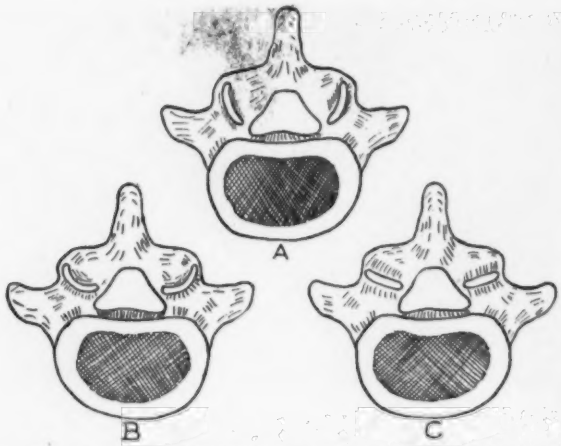

Fig. 13.—To show three main types of plane of articular facets of the lumbar and lumbosacral joints: (A) the sagittal, (B) the coronal, and (C) the dorsal.

Fig. 14.—To show sagittal facet planes between third and fourth and between fourth and fifth lumbar, with dorsal facet planes between fifth and sacrum.

ing, but with little or no rotation. Lovett[16] says: "The lumbar spine possesses marked mobility on flexion, hyperextension, and sidebending and but little in rotation." The examination of any series of x-rays of the low-back region taken in the weight-bearing position will demonstrate that lumbar rotation can and does take place. The range of rotation per segment is much less than that of flexion or extension; still the fact that it does exist makes it necessary that we understand its mechanics in the treatment of these cases. The lumbar facet planes are not well adapted to rotation but a small degree can be accomplished by the facet on one side sliding forward and medially while the facet on the other side slides backward and laterally.

When the facets are well paired, the body motion will be adapted to the type of facet plane present. Technique for the correction of lumbar lesions must also be adapted to the type of facet plane present. Force applied in correcting a joint lesion must follow the normal plane of motion for the joint involved. Force applied in the sagittal plane would only traumatize the joint that lay in the dorsal plane. Bilateral coronal (or dorsal) type of facet plane, as shown in Figure 14, was found in 38.2 per cent of the lumbosacral joints, in 18.7 per cent of the joints between the fourth and fifth, and in 0.7 per cent of the joints between the third and fourth.

The facet planes were not seen in all the anteroposterior views. The shape of the vertebra, the posture and size of the patient, and the slight motion that lessens detail in so many of the weight-bearing studies are factors that obscure the facets in the anteroposterior studies. The dark shadow (this appears as a white shadow in the printed illustration) that creates the impression of looking through the joint space is seen when the facet is in the sagittal plane, whereas the shadow is missing and the broader shadow of the surface of the process is shown when it is in the dorsal or coronal plane. It is impossible to distinguish between the dorsal and coronal types in the anteroposterior view.

Unilateral facet change is shown in Figure 15. The facet planes between the fourth and fifth lumbar are in the sagittal plane on one side and in the dorsal plane on the other. This type of facet occurred in 66.5 per cent of the cases where the planes of the facets were clearly shown. Frequently there was more than one joint involved in the same patient, although only 25.6 per cent of all the studies showing the facet planes were "textbook normals." The joint between the fourth and fifth lumbar was most frequently affected by the unilateral change. In forty-four cases the facet on the right was in the dorsal plane and that on the left in the sagittal. The reverse was true in thirty-two cases. In the lumbosacral joint the right facet was in the dorsal plane and the left in the sagittal in thirty-two cases, and the reverse in thirty-one. Only fourteen cases of unilateral change in the joint between the third and fourth lumbar were seen, the dorsal type facet being on the right in nine cases and on the left in five cases.

Different planes of motion in the two facets of the same spinal segment create a mechanical strain. The facet in the sagittal plane initiates a type of movement that the facet in the dorsal plane cannot follow, and conversely, the facet in the dorsal plane establishes a type of movement that is impossible for the facet in the sagittal plane to carry out. Consequently there is an impingement of the bony processes of that spinal joint whenever these incompatible types of movement are attempted.

When taking x-rays in the standing position, the individual's heels were centered to a line on the floor corresponding to the mid-line of the plate. The pelvis in the normal individual with good posture would be found centered so that the shadow of the sacrum and that of the symphysis would be bisected by the mid-line of the plate. The pelvis was not so centered in 31.4 per cent of the cases. The mid-line of the sacrum was found to the right of the mid-line of the plate in eighty-seven cases, and to the left in fifty-nine cases. This pelvic shift may be either the cause or the result of body imbalance.

With the patient positioned as described, the sagittal plane of the pelvis (a line drawn through the symphysis to the center of the sacrum) should be parallel to the mid-line of the plate. This was not

Fig. 15.—To show unilateral facet change.

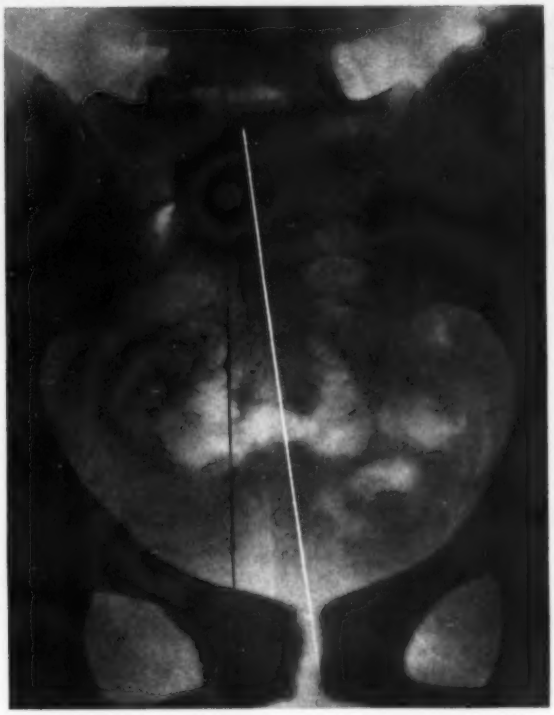

Fig. 16.—To show pelvic rotation.

found to be true in 49.2 per cent of the cases. The pelvis had rotated on a vertical axis so that the sagittal plane lay at an angle to the mid-line of the plate, as shown in Figure 16. Schwab referred to this as "pelvic torsion," a term which has caused some confusion. Torsion means twist, and several members of the profession have interpreted pelvic torsion as meaning a twist in the pelvis as created by the antagonistic movement of the two ilia on the sacrum. To avoid that confusion, we prefer to describe this condition as "pelvic rotation."

Pelvic shift and pelvic rotation often were found in the same individual, sometimes in the same direction and sometimes in opposite directions, i.e., pelvic shift to the right and pelvic rotation to the left. Both of these factors are thought to be compensatory measures, but both disturb the mechanics of the low-back region.

Pitkin and Pheasant[17] define the angle of inclination as the angle formed between the plane of the floor and the projection of a straight line that passes through the posterior and anterior superior spines of the ilium when the subject is in the standing position. The average normal, by their findings, was 8.8 degrees. The shadow of the symphysis will cover the shadow of the lower segment of the sacrum in an x-ray of the pelvis in this position. This was demonstrated by films made of several pelves so placed, and of individuals on whom inclinometer measurements were made. When the angle of inclination is increased, the shadow of the symphysis lies below the shadow of the sacrum on the x-ray film. The sacrum and coccyx were seen to be entirely above the symphysis in 61.8 per cent of the standing studies of this series, as may be noted on most of the illustrations. One of two conclusions may be drawn from this: either the normal limits as set down by the findings of Pitkin and Pheasant are too narrow or the majority of patients present an increased angle of inclination. An increase in the lordosis of the lumbar spine would be necessary to compensate for the increased angle of pelvic inclination and this in turn would shift the weight-load from the vertebral bodies to the apophyseal processes. Low-back strain and fatigue are brought on by this faulty distribution of weight-load.

Other atypical conditions occasionally seen in this series were malformed coccyx, imperfectly shaped body of the fourth lumbar, crooked spinous processes of the lumbar vertebrae (frequent), bifid spinous processes, irregularly shaped or widely spaced symphyses, and widely spaced apophyseal processes. Several studies exhibited apophyseal processes that were placed much more laterally than usual. This again may be evidence of evolutionary change toward a more stable lower back. Webster[18] described the tripod of support formed by the vertebral body and the two articular facets. More widely spaced processes would broaden this tripod and make for firmer support.

CONCLUSIONS

Palpation with a keenly developed sense of touch, backed by a sound knowledge of anatomy, is the greatest single guide to diagnosis. Most visualization is done from the static anatomy of the textbooks and cadavers. Mental pictures are formed of perfect normals, completely symmetrical, and with no variations. When the findings on the living patients are compared with these visualizations, false interpretations of palpatory findings are made. Repeated roentgenological study brings to light the fact that variations are the rule, that textbook normals are found only in textbooks, and that the so-called normal patterns are followed only in a general way. Bony landmarks are not reliable because the possibility of structural change is always present. Tissue tensions may be the result of these structural changes instead of resulting from

osteopathic lesions. Atypical fullness of the erector spinae mass may be the result of atypical bone development rather than contracture. All these conditions *can* be differentiated.. The important thing to remember is that they *must* be differentiated. The ideal, but not always practicable, method of examination would be palpation correlated with x-ray studies.

Mechanical perversions are almost always present in the individuals who present themselves for osteopathic care. The great majority of these mechanical perversions are caused by structural variations. These structural variations must be taken into consideration in arriving at a diagnosis of the case and in the prognosis and management. A diagnosis of a lesioned articulation is not sufficient. Though it may be accurate, it is too superficial. The cause behind that lesion must be determined. The recurrent type of lesion should make us suspicious of a basic mechanical perversion brought on by postural fault or structural variation. The patient must be considered as a whole, rather than as an individual with a lumbosacral lesion. All the factors that are capable of causing a perversion in the mechanics of the body must be taken into consideration. Their individual effects must be considered and correlated into their total effect. It is possible that multiple structural variations compensate for each other, or that a cumulative effect is established. The total mechanical picture must be visualized before an intelligent method of treatment can be carried out.

Medical Arts Bldg.

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Lateral Imbalance and the Use of Lifts*

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Lateral imbalance is but one of the phases of the larger problem of body mechanics, yet always should be taken into consideration in the analysis of unilateral symptoms referable to the trunk or lower extremities.

Lateral imbalance must be offset by compensatory factors in order that the upright position be maintained. Compensation for lateral imbalance is provided by distortion in the shape of the trunk and in the position of the lower extremities brought about by unilateral muscle pull. Active muscle contraction on one side produces a passive stretching of muscles, fascias, and ligaments on the opposite side.

When a normal standing subject lateroflexes to the right he avoids the tendency to fall to the right by shifting the weight of the pelvis and lower trunk to the left, while bearing more weight on the right foot. He has produced what appears to be a lateral curve from the shoulders to the feet, convex to the left with the apex at the pelvis. This lateral shift of the pelvis, facilitated by free movement at the hip sockets, is a frequent part of lateral imbalance or its compensation. Since rotation of the vertebral bodies accompanies group lateroflexion and occurs toward the side of the produced convexity, it is not surprising that rotation of the pelvis may be found in the presence of compensated lateral imbalance.

A lift as used therapeutically for the correction of lateral imbalance consists of leather or other material added to the heel or heel and sole of the shoe of one foot. Since the effect is to lengthen the distance between the acetabulum and the floor, the most obvious indication for a lift is an anatomical short leg. This lift is, then, a substitute to overcome the effect of deficient length of bone in one lower extremity or, what occasionally is found, an asymmetrical ilium. Its use tends to level the base of support for the spine, thus eliminating the lateral imbalance and its required compensation. This is substitution therapy, much more practical than removal of the cause and in most cases almost as effective.

When the indications are clear-cut, the installation of a lift is followed by spectacular improvement in symptoms, both subjective and objective. Unless good judgment is used, however, after careful study of the case, the results will be disappointing. Lifts are not indicated in all cases of lateral imbalance; even when indicated, the greater emphasis may have to be placed on manipulation or other measures. A lift alone is rarely enough to accomplish the desired result. It is with this thought in mind that this paper is presented.

Many factors are concerned in the indications and contraindications of the use of lifts for anatomical short leg. One of the first considerations is the age

* Delivered before the Technic Section at the Forty-Fifth Annual Convention of the American Osteopathic Association, Atlantic City, June 23, 1941.

of the patient. In an elderly patient, with the usual tendency to fibrosis, it is not advisable to attempt any great change in his postural habits unless the imbalance has been produced recently, as from a fracture with shortening. The age, as judged by stiffness of the spinal column, is more important than the actual age. In children with years of growth ahead of them, the difference in leg length may decrease or even disappear before closing of the epiphyseal lines. However, it is all the more important that the soft, impressionable spinal column be kept straight or nearly so during these years.

In children our procedure is to apply a lift slightly less than the difference as shown by a standing x-ray film, and our experience to date seems to justify our belief that to satisfy the entire difference may discourage nature's attempt to equalize the leg length. Of course, the child is watched closely for indications for altering the thickness of the lift. Manipulation to keep the spine freely movable, postural training, and supervision of exercise are important. We know that there are those who believe in using more than sufficient lift to overcome the shortness, in case of young children, in the belief that this causes extra exertion about the hip on the short side, and that this stimulates the growing centers of bone. We are not familiar with experimental or clinical evidence to substantiate such belief.

The second and more important consideration in the use of lifts is the degree of flexibility of the spine, especially in lateroflexion. This can be tested in the usual manner. The standing subject is asked to bend first to one side then to the other, maintaining the knees straight and both heels on the floor. The observer compares the lateral flexibility of the lower spine on opposite sides. Further information may be gained by passive lateroflexion applied as the patient is sitting or prone. The restriction may thus be detected in a definite number of joints, or even in a single joint. At the same time the quality of the restriction is determined. If the termination of movement is abrupt, a chronic pathological condition is suggested either in the joint or in the muscles which are antagonistic to the attempted motion. If the motion terminates with a springy resilience and is painful to the patient, the antagonistic muscles are in a state of spasm.

If the lower spine is held in lateral imbalance (scoliotic curve) by a local pathological condition, either acute or chronic, on the side of the concavity, no lift should be used to straighten the curve until this intrinsic disorder is carefully evaluated. It may be necessary to postpone use of the lift even though the leg be short, until the area has been treated sufficiently to allow easy straightening. A disturbance of this kind on the side of the concavity is usually primary. It may be the sole cause of the lateral curve. Muscle spasm, hypertrophy or fibrosis on the side of the convexity is usually caused by the lateral curve and, therefore, a lift may be used without hesitation, when it is certain that there is an anatomical shortening.

When the condition is chronic, a standing pelvic x-ray is indicated in the beginning not only to determine leg length, but also to analyze better the location and degree of the fibrosis, and to rule out deformity of bone. The psoas major muscles, which are difficult to analyze with usual spinal examination, may show an increase in size or density on the x-ray film.

In the presence of an acute unilateral condition which obviously is sufficient to produce a lateral distortion of the trunk, it is advisable to delay the taking of x-rays until the acuteness has subsided and the spine has regained its usual contour.

A third consideration is the determination of which side requires the lift and of how much to use. This is not always as clearly evident as one might think, even with the aid of a standing pelvic film. Ideally the top of the sacrum is low and the lumbar area convex on the side of the short leg. A lift on the short side levels the pelvis including the top of the sacrum and if other conditions are favorable, the curve tends to straighten. In this case, the lateral curve is the only compensation for the short leg. It is the most physiological type of compensation since it is diffused through a series of joints each of which is distorted only slightly.

If the short leg on the right, for example, is compensated by a sacral lesion which includes lateroflexion to (downward glide on) the left, the sacral top may be leveled thus and no lateral curve required in the lumbar region. If a lift were used on the short right side without correction of the sacroiliac lesion, a lumbar convexity to the left with consequent unilateral strain would likely result. If the sacroiliac lesion were corrected without regard for the anatomical short right leg, the lesion would probably recur. The lift should be instituted immediately after correction of the sacral lesion.

The sacroiliac lesion may be in the opposite direction. That is, it may lower still more the right side of the top of the sacrum. In this case, correction of the lesion will correct some of the imbalance and the lift will take care of the remainder.

Single lesions of the lower lumbar region, as in the case of sacroiliac lesions, may produce enough lateroflexion distortion to minimize or exaggerate the effect of a short leg.

Occasionally the temporary use of a lift on the side of the longer leg is indicated where there is such an exaggeration of the compensation in the pelvic or lower lumbar region that the spine forms a convexity to the high side. Disregarding for the moment the sacral or lower lumbar lesion, the simple rule of using the lift on the side of the convexity of the lumbar curve is adhered to. The patient is warned against prolonged unsupervised use of this temporary lift regardless of the fact that its early effect may be quite gratifying. The procedure, after relief of low-back spasm, is to correct the lesions, remove the lift from the high side and later, when the curve has become typically convex to the low side, build up the short leg as usual.

It is important enough to repeat that a diffuse compensation (lateral group curve) is less harmful than a localized compensation (single lesion) for an anatomical shortness of the leg or any other cause of lateral imbalance. A single lesion is the site of pathological changes from its beginning, whereas a group curve, until it has been present for a considerable time, will disappear when the subject is in a recumbent position. With this in mind, it is well to delay or at

least to be cautious in the use of a lift, until the lower spine and pelvis are free of harmfully severe tissue disturbance as a result of lesions.

A fourth point which should be kept in mind is that the effect of a lift on the spine is from below upward. Let us suppose that our problem is one of definite convexity to the left in the thoracic region, with the lumbar region practically straight and a slight shortness of the left leg. From experience, we have learned that use of a lift on the short left side will produce a new lumbar convexity on the right before removing the upper curve convex to the left. Lateral curves which are caused by a short leg are low in the spine. When we find a curve so high that it does not include the lower two or three lumbar vertebrae, we may be sure that its cause is not a short leg, even if a short leg be present.

We have not attempted a listing of all causes of lateral imbalance, nor have we included all of the forms of treatment. Our attempt has been to rationalize the use of lifts. Their use is neglected by some and overemphasized by others.

Chicago College of Osteopathy,
5200 Ellis Ave.

National Convention News

"OSTEOPATHIC EDUCATION LOOKS AHEAD"

To The Los Angeles Convention

It has been said that the great Osler once likened medical education to the training of a sailor, saying in effect, "to study medicine without books is like studying navigation without charts, but to study medicine without patients; well, the sailor just hasn't been to sea at all." Our acceptance of clinical teaching might be expressed in the terms of the man who was asked what he thought of women's clothes: said he, "I think they are here to stay."

Clinical teaching is, and will continue to be, the backbone of the training of the physician, whether graduate or undergraduate. There is probably no place in the osteopathic world where clinical teaching may be projected to better advantage than in the area of Los Angeles. A concerted effort is being made to harness these advantages and put them to work for the 1942 Convention of the American Osteopathic Association.

As features of the Los Angeles convention, clinical presentations are being planned in abundance. This might be said more modestly when it is realized that there never could be enough clinical teaching. Ward walks already are being projected that well may attract the best minds of our profession. There is hardly a phase of general practice or the specialties that has not been thought of. It is difficult to see how the general practitioner can afford to miss this postgraduate training.

The specialties will be represented by presentation clinics and ward rounds as well as operative clinics. This will be the first time that so much hospital space and facilities have been made available to our profession in national convention assembled.

Operative surgical clinics are already being planned to cover most of the phases of general surgery and the surgical specialties. The best surgeons of our profession will be on hand to demonstrate their skill and to explain the "why" of surgical diagnosis and management.

Neuropsychiatry has not been overlooked. Who will deny that this is an exceedingly important phase of general practice? The osteopathic physician is in a position peculiarly adapted, by his close contact with patient, to influence the body through the mind, and vice versa.

There are certain therapeutic measures which we look upon as being peculiarly osteopathic. These are the things over and above anything offered by any other school of medicine. Sections on technic and manipulative therapeutics should be developed to their height at the Los Angeles convention. There is nothing that requires so much study and so much practice as osteopathic technic. Years of experience are necessary to produce the polished and accomplished physician in this field. Trade secrets have no place in a learned profession. The Los Angeles convention will offer a place where new methods can be learned and old methods improved.

O. D.

CONVENTION COMMITTEE

Under the General Chairmanship of Dr. J. Gordon Hatfield, the officers and committee chairmen of the Los Angeles Convention Committee are planning actively for the forty-sixth annual convention of the American Osteopathic Association to be held in that city the week of July 5. Following is the lineup of executives and chairmen as it stands at this date:

General Chairman—J. Gordon Hatfield
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THE JOURNAL OF THE
AMERICAN OSTEOPATHIC ASSOCIATION
Published monthly by the American Osteopathic Association

Publication Office, 100 S. Marion Street, Oak Park, Ill.
Editorial Office, 540 N. Michigan Ave., Chicago, Ill.
Address all communications to the Chicago Office
Cable address: "Amerosteo"

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Subscription - - - - - - - - Ten dollars a year in advance

Vol. 41 December, 1941 No. 4

COMMENT ON RECENT RESEARCH

Denslow[1] has demonstrated by a series of experiments the presence of activity in the muscles of a lesioned area. While admitting the possibility of a viscerogenic reflex, he states that all but one of his subjects were without discoverable pathology. By implication the existence of a somatogenic reflex is arrived at.

This work opens the door to a field of research in kinetic pathology so vast as to be beyond comprehension.

Heretofore it has been the custom to assume a parallel between physiology and functional pathology. The study of pathology has been in a large degree confined to the end results. The meticulous biochemical and biophysical standards set up for physiological research have been notable by their absence in pathological investigations. Further assumptions that foreign excretory products (certain amines), pyrexia, etc., are per se undesirable, are unwarranted.

It might not be amiss to state that osteopathy gains its effects by releasing, augmenting, or inhibiting somaticovisceral impulses. In order to accomplish this designedly, it has been rationalized on the basis of observations in the pathology laboratory which are static and from experiments in the physiology laboratory which while dynamic, depend for their success on the ablation of certain factors and the interpolation of others.

Except in the study of bacteriology, which has extended its field to include the response of the body to bacterial invasion, little has been recorded of the behavior of the organism in resenting insult to one or more of its members. A study of kinetic pathology, i.e., the techniques of physiological research applied to pathology, will show that the aggregate response of the autonomic nervous system, endocrines, reticuloendothelial system and sympathochromaffin syncytium is foreign to that seen in health.

Failing a detailed knowledge of function in pathology, allopathic medicine and osteopathy alike have adjusted clinical procedure to a combination of empiricism, some of which has been rationalized, and rationalization of results of physiological research and post-mortem observations. This leaves much to be desired when, as is frequently the case, the clinical course does not conform to the picture.

Under stress, there is a tremendous summation of potentials which are not adequately appreciated. A textbook description does not depict the force or delicate functioning of which a muscle is capable. At times it is difficult to determine whether the mobilization of defense forces is to combat the disease or to resent interference.

For our profession, until sick subjects are studied, and the Still lesion shown to be a factor in their survival or morbidity, or certain definite manipulations shown to be a factor in their survival or morbidity, much of our success is fortuitous. An osteopathic manipulative treatment to one operator means one thing and to another, something entirely different.

It will be found, not infrequently, that the manipulation having the most favorable and beneficial effect will be at a distance from, and without segmental relation to, the diseased region but will release forces stopping the defense mechanism.

It is significant that the somatic impressions which in disease are mediated to the benefit or detriment of the subject, in health are dissipated.

LEONARD V. STRONG, JR., D.O.

1. Denslow, J. S., and Clough, G. H.: Reflex Activity in the Spinal Extensors. Jour. Neurophysiol., 1941 (Sept.) 4:430-437. See also "Electromyographic Studies of Structural Abnormalities," this issue of THE JOURNAL, p. 175.

OSTEOPATHIC STUDENT ENROLLMENT

Vocational guidance is only one among innumerable activities which have changed, almost overnight, and almost beyond recognition. Securing students for osteopathic colleges has changed, as it has for other kinds of schools.

It is impossible, in this brief space, even to outline the problems we face, to say nothing about discussing their solution. It can be said, however, that the profession, and the various segments which make it up, have before them one of the greatest tasks of their history. Two things are necessary: (1) To provide students in greatly increased numbers for the next classes which open; (2) To study the many aspects of the great field of vocational guidance, with a view to permanent improvement in the situation.

In part, the work belongs to the colleges. They have made most encouraging strides in the direction of visualizing the changes which have taken place, and the changes which they must institute in their methods in order to be successful.

It would seem logical to believe that the various organizations of osteopathic alumni in the country have at least as great a responsibility as the colleges themselves. In many fields of education organized alumni have gone about it carefully and studiously to ascertain the needs of their respective colleges, and do something to meet those needs. We have six alumni associations. They hold at least one of the

keys to a problem to which, collectively or as six groups, they have given all too little attention.

In addition to the colleges and the alumni associations, and in addition to osteopathic associations as such, there are the thousands of individuals who make up the profession. Very few of these have sufficiently studied the methods of, or cooperate with, those in our educational system who have to do with guiding the young in their choice of a profession. In fact, too many of us have not even realized that vocational guidance itself has mushroomed into a profession of very sizeable proportions.

A very noticeable increase in interest and activity on the part both of individuals and of state and local societies is seen. The Division of Public and Professional Welfare from its inception has played a part in providing vocational guidance information in many forms.

There is a sentence which should be kept in type and inserted in these columns each year when we present Dr. Asa Willard's annual survey showing the number of students in each of the recognized colleges, their geographical distribution, and comparisons with previous years. The fifteenth such survey is presented in this number, and we repeat what we said last year and the year before: "Few who read that report have any conception of the magnitude of the task which few, indeed, either would be willing to undertake or are capable of undertaking, and which would dismay almost anyone after he had tried it once or twice."

As he has done in other years, Dr. Willard draws comparisons, not only between years, but also between colleges and between states, and between types of legislation in the various states. Also, as in recent years, he looks briefly into causes of the current drop in enrollment, and suggests remedies

Last year, editorially, we tried to draw some comparisons between what is happening now and what happened at the last previous general adjustment of osteopathic entrance requirements; between what is taking place in the present military emergency and what took place at the time of the Great war; and also between osteopathic and other colleges. Particularly we compared our present decline in enrollment with what happened when the M.D. schools adjusted their standards early in the century.

We wish now to make more comparisons with schools granting the M.D. degree, but as always we must remember that each individual year has its own peculiarities. Let us begin by pointing out two facts which are not exactly relevant: (1) It often is said that M.D. colleges accept not more than 20 per cent of those who apply, which never has been true. They have been accepting 50 per cent or more of their applicants. (2) It also is commonly said that women cannot get into, or stand little chance of entering, schools granting the M.D. degree. However, in the fall of 1940, those colleges accepted 51.8 per cent of female, as against 53.4 per cent of male, applicants.

The number accepted into M.D. schools had declined every year for some time until the fall of 1940. In fact there was a drop in their enrollment each year beginning in 1935, until last fall, when about 100 more were accepted than the year before, and somewhat more than in 1938, the explanation given by the Secretary of the Association of American Medical Colleges being that probably this was because of selective service "to insure a graduation class at least as large as in preceding years." However, in the school year 1939-40 enrollment was the lowest it had been at any time since 1928-29.

It may be said that there is no significance in the number enrolled in M.D. schools, since they have nearly twice as many applicants as they can accept. But in the number of applicants, also, there had been a steady decline (with only one slight upturn) since at least as far back as 1935, until 1940 when there were a few more than the year before.

Last year attention was called to studies made by Dr. Raymond Walters, President of the University of Cincinnati, who showd that in the fall of 1940 there were approximately 5,000 less freshmen in 643* approved institutions representing five large fields of study than there had been the year before. Back in 1939 Dr. Walters had called attention to the fact that there were one and a half million less children in elementary schools than a decade before, and that a shrinkage in college enrollments was almost certain to come. He showed last year that while enrollment in engineering schools was increasing, that in liberal arts colleges, where preparation is made for professional courses, was down.

Comparatively small comfort is to be drawn from a knowledge that other schools show something of the same trend as do ours—especially when ours show so much more loss. The important thing is to find the cause or causes and remove it or them.

But Dr. Willard's tabulation clearly demonstrates the vital necessity of more study and more work all along the line.

M.D.'s SHOULD LEARN ADJUSTMENT

The last paragraph of the review in *Medical Record,* October 15, 1941, page 320, of "Body Mechanics in Health and Disease" by Joel E. Goldthwait *et al.*, reads as follows:

" . . . There is every good reason why the regular practitioner should learn all that is known about 'adjustment;' there is no good reason why he should allow his patients to drift away; that is, there is no good reason save the inexcusable one of mental inertia."

Fishbein says: "Modern living and modern social trends demand new types of machinery to accomplish results . . . The coming of new machinery for popular education [makes] possible the dissemination of vast amounts of information in a way never previously possible."—See article on page 200.

* His entire study covered 652 colleges, but the freshmen comparisons were in only 643 of them.

SPECIAL ARTICLE

The Birthright of Osteopathy

OTTERBEIN DRESSLER, M.Sc., D.O.
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Since that June morning in 1874[1] when Dr. A. T. Still crystallized his philosophy of disease which he was pleased to call *Osteopathy,* radical changes have taken place in the healing art, changes as radical as were his thoughts of that day, changes that would have shocked the finer sensibilities of the conservative scientists of his time, yet changes that were the result of his thinking. The scientific foundations for the healing art have likewise altered immeasurably. Our knowledge has been expanded by discovery and elucidation. With this changed and changing scientific world it has become more and more evident that the prophetic philosophy of Still is to be established as scientific fact.

Sometimes those of the osteopathic school fall into the same error as certain religious thinkers. They fear that science may overthrow something that they believe to be right, something that they cherish beyond worldly goods. Science might well be considered as truth, "truth about tangible things," "truth about tangible things—classified." Fear truth! If the osteopathic philosophy concerning disease be truth or near truth, then science will consolidate its position; if it be false, then we should want no part of it anyway.

There is still, in some quarters, some doubt as to the nature of the osteopathic school. Some seem to feel that it is something other than medicine. From all sides we hear that some osteopathic physicians practice medicine with the implication that such an act is sacrilege. We are told that the osteopathic schools are teaching medicine! If we are not the osteopathic school of medicine then what are we?

Not only are we the osteopathic school of medicine, but I am persuaded that we are the dominant school of medicine. No matter how it be argued (except politically), but particularly by applying the scientific knowledge of today, the osteopathic principles dominate the healing arts. The difficulty is to keep ourselves oriented in time and place when this matter is considered. There are those, who, because of ignorance, or even less noble motivation, would have it that the osteopathic school and its founder are all wrong because Still, in his original enunciations, did not subscribe to the use of therapeutic agents common today. Still would have indeed been a prophet if he had even mentioned insulin in 1874, or even in 1884, 1894, or 1904 or 1914, since insulin was not discovered until 1921.

If Still had been right in all his thoughts and writings, he would have far transcended the human race. For instance, he is said to have had certain scruples about smallpox vaccination as practiced in his day and well he might because of the dangers of contaminated virus as obtained then. With all, he did not go as far afield as Robert Koch,* the discoverer of the tubercle bacillus, for he made a special trip to America to lecture about the bovine bacillus and to prove it is non-pathogenic.

Let us then examine these osteopathic principles, trying to keep ourselves oriented, and challenge them with the scientific knowledge of today.

Still said, in effect, "The things necessary for the cure of disease are resident within the body rather than foreign agents taken in from without." What a bombshell that was. Mark you, this was ten years before the phagocytes were demonstrated, thirty years before Schaudinn and Hoffman demonstrated the *Treponema pallidum,* twenty years before Emil von Behring introduced diphtheria antitoxin. Still's announcement came at the time when man was most busy trying to find the *things* to *cure* disease, the panaceas. In direct violation of the major principle of Hippocrates, man was considering the disease rather than the body. Here was Still reverting to an age-old doctrine of "consider the body as well as the disease." Such thoughts could come only from a deranged or depraved mind. This man and his teachings must be destroyed! It is not singular in medical history for a man to be crucified because he has deigned to differ with established and conventional teaching. Did not Ignaz Philipp Semmelweis† pay

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*Robert Koch announced his discovery of the bacillus of tuberculosis in 1882 and simultaneously made the first statement of the "Koch postulates" which have more or less controlled bacteriological investigation ever since. He announced his views on the bovine bacillus at the London Tuberculosis Congress in 1900 and subsequently at the Washington Congress in 1908. Koch's greatest mistake was his premature announcement that tuberculin would cure tuberculosis. For details consult Garrison's "History of Medicine." Ed. 3. W. B. Saunders Co., Philadelphia, 1922, p. 624.

†Ignaz Philipp Semmelweis (1818-65), a Hungarian pupil of Skoda's and Rokitansky's who, in 1846, had become an assistant in the first obstetric ward of the Allegemeines Krankenhaus in Vienna. This ward had acquired such a high mortality in puerperal cases that women begged in tears not to be taken into it. Semmelweis noticed that the first ward differed from the second (which had a lower mortality rate) in that students came into it directly from the dissecting room for instruction, often making vaginal examinations with unclean hands, while in the second ward, devoted to the instruction of midwives, much greater attention was paid to personal cleanliness. With this idea in mind, he also made a careful study of the autopsies in the fatal puerperal cases. In 1847, Kolletschka, Rokitansky's assistant, died of a dissection-wound, and Semmelweis was present at the postmortem. As he stood beside the body of his former instructor, he noticed that the pathological appearances were the same as in the unfortunate puerperae of the first ward, and he now had his chain of evidence complete. He immediately instituted such precautions in the handling of labor cases that the mortality curve sank from 9.92 to 3.8 per cent. In the following year he had a mortality as low as 1.27 per cent, and all through the simple expedient of washing the hands in a calcium chloride solution in connection with pregnancy and the conduct of labor. Semmelweis is thus the true pioneer of antisepsis in obstetrics, and while Holmes antedated him in some details by five years, the superiority of his work over that of his predecessor lies not only in the stiff fight he put up for his ideas, but in the all-important fact that he recognized puerperal fever as a blood-poisoning or septicemia (1847-49). Like Holmes, he met with fierce opposition, and while Rokitansky, Hebra, Michaelis, and, to his lasting honor, Skoda, stood by him, he was persecuted by Scanzoni, Carl Braun, and the orthodox obstetricians of the day. Disgusted, he suddenly left Vienna for Budapest, where he became in due course professor of obstetrics at the University (1855) and published his immortal treatise on "The Cause, Concept, and Prophylaxis of Puerperal Fever" (1861). But his sensitive nature was not equal to the strain of violent controversy, and brooding over his wrongs brought on insanity and death. He is one of medicine's martyrs and, in the future, will be one of its far-shining names, for every child-bearing woman owes something to him.—Garrison's "History of Medicine." Ed. 2. W. B. Saunders Co., Philadelphia, 1922, pp. 457-458.

with his life because he dared to save the lives of women in labor? Louis Pasteur had no easy time of it, you know.

Doubtless Still was discouraged, but he had the fortitude to establish his own school. "For if new-got gold is said to burn the pockets until it be cast forth into circulation, much more may new truths."

What has happened to this idea that "the things necessary for the *cure* of disease reside within the body?" Did there not appear shortly after, one—Metchnikoff—who demonstrated certain cells *within the body* as phagocytic, that is, they possess the property of engulfing and destroying microorganisms? And did not Ehrlich establish the side-chain theory of immunity, an early form of today's accepted knowledge that the body manufactures chemical immune substances as antitoxins, precipitins, agglutinins to destroy microorganisms and their toxins? More recently Cannon[2] has introduced and expanded his *homeostatic mechanisms.* Are not these the things that Still predicted by his philosophy that "the things needed to cure disease reside within?" The reiterated truism is not osteopathic propaganda. It embodies scientific facts as learned by even the elementary student of immunology today. The more we learn about bacteriology, serology and immunology, the more Still's theory becomes plain. I say, therefore, that every time *anyone* uses a vaccine to develop immunity *within the body* he is practicing osteopathic medicine; when he uses diphtheria antitoxin he is practicing osteopathic medicine.

With a crude stick a man might break up an area of soil as was done in times past; hitch a horse to a plow and a larger area can be broken up in a shorter period of time. Innoculate a human with the bacillus of diphtheria and he will develop diphtheria antitoxin; innoculate a horse with the bacillus of diphtheria and he will develop much more antitoxin and it can be done at leisure and stored for emergency. Is it not sensible to use the serum of the horse for diphtheria? Some say this is the practice of medicine and so it is—osteopathic medicine.

What about the use of the various glandular products, the biologicals? Does this not further amplify the Still philosophy? What about diet, the vitamins, the minerals, etc.? These things are osteopathic medicine. Take away immunotherapy (vaccines, sera, transfusions); take away the endocrine products; take away dietetics and there is little left in the therapeutics of any school of medicine today.

Still was opposed to "internal medication as a curative means." What an absurd doctrine in 1874 when all was dependent on internal medication. To review the feeling of that day, and, unfortunately, among some today, one would wonder how animal life survived on this planet for several million years without benefit of internal medication. Drugs cured disease; if the outcome was unfavorable too little or too much was used.‡ Those arguments failing, the case was not seen early enough. What has happened in the meantime? Look at the corner drug store. Is it an apothecary shop devoted to the compounding and dispensing of prescriptions? Far from it. It has become a pseudo-department store and many pharmacists do not disguise that the income from the lunch counter and soda fountain far outdistance all else, not to mention the patent medicine trade, the income from which would endow scientific research in the medical art the world over.

A few years ago in the Senate of the State of New York the opposition declared, "These men [osteopathic physicians] can't be physicians, they don't study materia medica but substitute osteopathic principles." Would it not, indeed, be unfortunate if an osteopathic school did not teach osteopathic principles? That would be as unwise as an allopathic school not teaching materia medica. The current catalogues of seven of the recognized allopathic schools of that State were placed in evidence, the eighth was not available at the moment. The catalogue of Yale University was submitted for "good measure." Thereupon the opposition was challenged to show any course in materia medica offered by any of these schools. They did not exist! The teaching of materia medica has passed "out of fashion" since the time of Still. Pharmacology is taught in osteopathic, homeopathic and allopathic schools. The use of drugs for their pharmacodynamic effect is not at variance with the teachings of Still, science, or good sense, as long as one remembers the other principle of Hippocrates, "If you can do your patient no good take care that you do him no harm."

Still developed certain *mechanical* principles in the prevention and treatment of disease. This "manipulation in the treatment of disease," from its inception, has been the distinguishing feature of the osteopathic school of medicine. Its efficiency has been attested to by the millions of patients benefited. In the interest of brevity, may I quote only E. B. Krumbhaar,[3] Professor of Pathology in the University of Pennsylvania, from his "History of Pathology" in the Clio Medica Series: "Osteopathy will doubtless lead to a better appreciation of the value of proper manipulation . . . "

When the first school of osteopathy was founded its charter said that its purposes were "to improve upon our systems of surgery . . ." Along about the turn of the century, and in the face of most intense opposition "a physiological system of surgery"[4] began to put in its appearance. This was no easy evolution, the struggle was a bitter one. The great strides in the surgical management of disease in recent years is the result.

List, if you will, the major changes in the healing arts since 1874 and you will see the shadow of A. T. Still and his osteopathic school. The osteo-

‡In an article entitled "The Metamorphosis of Drug Research," *Science*, vol. 94, August 1, 1941, p. 99, Theodore G. Klumpp, Chief Drug Division, U. S. Food and Drug Administration, Washington, D. C., said:

"Nature cures the disease while the remedy amuses the patient . . . Man has been subject to colds and coughs since the dawn of civilization . . . they have come and disappeared for countless generations before her medicine or mine had been discovered . . . If colds and their coughs hadn't made a habit of coming and going in precisely the same way regardless of what we did for them, man would long since have coughed himself off the face of the earth . . . But all in all early experiences with drugs were empirical in nature and followed a pattern something like this: An individual is sick. A drug is given. If the individual recovers, the drug effected the cure. If the patient dies, it is easy to excuse the failure by reasoning that not enough of the drug was given, or too much was given, or it was not given early enough. The same type of fallacious therapeutic reasoning is still commonly practiced today by laymen and many physicians . . . Many diseases and symptoms are self-limited, regardless of what is done for them. (2) Nature heals and cures; drugs at best are merely adjuvants. (3) Chronic diseases are characterized by spontaneous remissions and exacerbations. (4) Symptoms are often entirely due to and almost invariably aggravated by worry and emotional disturbance. (5) Symptoms regardless of their cause are often temporarily improved through the expectation of therapeutic benefit.

pathic philosophy dominates these changes. Science, truth, the heritage of all, confirms them.

If the foregone be true, then it might be rationally asked "why should there be more than one school of medicine? All are working for the same end, all are sincere, all are earnest." Allow me to resort to analogy to explain this seeming incongruity:

It is rather awkward for the pathologist to speak about the welfare of the soul. His vocation has led some to doubt that he possesses a soul, much less that he believes in its existence. However, I, for one am persuaded that the welfare of the soul far transcends the welfare of this temporary, animated bit of clay we call the body. If this be true, the welfare of the soul must be an important affair and those who would advise us about our existence should be even more learned than those who treat the material body. Do the theologians agree on their principles?

Breathes there one so bigoted as to assume that just because one graduates from a rabbinical school that he does not understand theology? My information would have it that Rabbis are most learned gentlemen, and most sincere. Would one assume that just because one graduated from a Roman Catholic Seminary that he does not understand theology? What of the Baptist or the Presbyterian or even the humble United Brethren? Are not these students of theology equally earnest, honest, sincere, devoted? I believe they are, but they cannot agree on all points of theology, yet this problem has challenged the human mind since the dawn of intelligence.

It is not too difficult to see why there are several (good) schools of theology. If we knew *all* the truths about "here and hereafter," theology would become a science and there could be only one school, as there is now in mathematics.

The treatment of disease (medicine) is not a science, but an art! Do not be deceived by the glowing term "medical science." (Science—what crimes have been committed in thy name!) We don't know *all* the truths about disease—its causes, its treatment, its cure, its prevention! If we knew all the truths about bodies and their diseases, then medicine would indeed become a science and there could be only one school. Until that happy day arrives all that we ask, all that we need ask of rational humans is that we might enjoy professional and scientific freedom and liberty for the same reasons that we ask freedom and liberty in religion.

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PUBLIC HEALTH RADIO PROGRAMS

Educational health programs approved by the Division of Public and Professional Welfare of the American Osteopathic Association are being broadcast over the following stations:

WMFJ—1420 kilocycles, Daytona Beach, Fla., Saturdays, 10:30 a.m., Fourth District Society of Osteopathic Physicans and Surgeons.

WJAX—930 kilocycles, Jacksonville, Fla., Tuesdays, Duval County Osteopathic Society.

WDZ—1020 kilocycles, Tuscola, Ill., second and fourth Saturdays of each month, 1:30 p.m., Illinois Osteopathic Association.

WSBT—960 kilocycles, South Bend, Ind., third Friday of each month, 11:45 a.m., Northern Indiana Association of Osteopathic Physicians and Surgeons.

WJBC—1200 kilocycles, Bloomington, Ill., Wednesdays, 1:00 p.m., Fourth District Illinois Osteopathic Association.

WROK—1410 kilocycles, Rockford, Ill., twice monthly, 1:15 p.m., Winnebago County Osteopathic Society.

KGKY—1500 kilocycles, Scottsbluff, Neb., second and fourth Thursday of each month, 2:00 p.m., Nebraska Osteopathic Association.

WJTN—1210 kilocycles, Jamestown, N. Y., Sundays, 11:15 a.m., New York State Osteopathic Society.

WIBU—1240 kilocycles, Poynette, Wis., (broadcast from Madison studio) Thursdays, 6:30 p.m., Wisconsin Osteopathic Association.

WAAF—920 kilocycles, Chicago, Ill., Saturdays, 2:05 p.m., Chicago Osteopathic Association.

WHBY—1200 kilocycles, Appleton, Wis., first and third Monday of each month, 8 p.m., Fox River Valley District Osteopathic Society.

WBCM—1410 kilocycles, Bay City, Mich., Mondays, 1:30 p.m., Saginaw Valley Academy of Osteopathic Medicine.

KMO—1330 kilocycles, Tacoma, Wash., Wednesdays, 3:30 p.m., Pierce County Osteopathic Society.

KUTA—1500 kilocycles, Salt Lake City, Utah, Tuesdays, 9:15 p.m., Utah Osteopathic Association.

KFKA—910 kilocycles, Greeley, Colo., Wednesdays, 5:45 p.m,, Colorado Osteopathic Association.

THIS IS TANGIBLE

The American Osteopathic Association has a record of 10,376 osteopathic physicians in practice December 1. This is an all-time high. There are 6,163 members of the A.O.A. That is an all-time high. Five thousand seventy-three of these are fully paid, the highest number for years on the corresponding date. The number who were members last year but who have made no move to pay this year is smaller than in a long time.

What of the next few weeks? That is up to you.

For the past three years, the difference between those fully paid on December 1, and those included in the Directory has averaged 655.

This year, if that difference is 376, A.O.A. will have the biggest Directory ever. It will take a little more than 550 to make a bigger per cent of the profession in the Directory than last year; but the 1938 Directory showed 57.1 per cent of the profession as members, and the difference between the paid-up membership on December 1, and that per cent, is more than 850.

This is tangible. This is a challenge. There are 435 who either have paid part of their dues or have promised to pay. The others must be new, or perhaps more important, last year's people who still are unpaid and who need to come in. What do you say?

Where Our Students Come From

ASA WILLARD, D.O.
Missoula, Mont.

We here present the fifteenth annual tabulation of students in the osteopathic colleges, giving the number in each school each year and whence they came each year. The listings include only students working for the D.O. degree who are now, in this month of October, 1941, in actual attendance.

In each of the fifteen years these tabulations have been made at this time of the year after the fall registration has been completed. It will be found interesting to compare the total attendance of different years and the attendance at each college in different years and particularly interesting to note how the various states have or have not contributed to the osteopathic ranks, and figure reasons for the variations. The proportion of students to the state's population should be considered to make the comparisons fair.

We will here repeat the statement made last year as to the Massachusetts college.

"Through these years this study has been confined to the colleges approved by the American Osteopathic Association. For the purposes of the study, a college is deemed to be approved when it has graduated a class the work of which has been approved through each of its four years.

NUMBER OF STUDENTS REPORTED BY COLLEGES

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
Chicago	124	131	140	117	101	81	82	92	111	140	194	157	141	128	91
Des Moines	226	237	209	203	197	193	221	227	163	177	182	185	203	190	134
Kansas City	103	109	117	125	140	150	163	181	194	211	237	183	160	163	116
Kirksville	639	598	566	607	594	630	623	718	735	789	864	786	696	559	427
Los Angeles	205	217	217	266	298	308	294	279	295	243	232	258	234	272	259
Philadelphia	262	254	302	387	420	349	343	344	328	300	268	260	258	251	273

STUDENTS BY STATES IN THE CLASSES WHOSE WORK IS APPROVED, IN THE MASSACHUSETTS COLLEGE OF OSTEOPATHY

Connecticut	1	Massachusetts	53
Illinois	1	New Hampshire	2
Louisiana	1	New York	2
Maine	2	Rhode Island	3
		Total	65

Last year there were forty-three students in the two classes at Massachusetts college whose work was approved, and the year before, its first year, twenty-eight in the one approved class.

The tabulations here presented will not include the above figures though the work done by these students is being approved.

The total number of students who were in our approved colleges after registration each fall from 1927 to 1941, inclusive, immediately follows:

Year	Number	Year	Number
1927	1,559	1935	1,826
1928	1,546	1936	1,860
1929	1,551	1937	1,977
1930	1,705	1938	1,829
1931	1,750	1939	1,692
1932	1,711	1940	1,563
1933	1,726	1941	1,300
1934	1,841		

It will be seen from the above that the 1941 registration is 246 lower than the 1928 registration the previous lowest of the fifteen year period, and it is a decrease since 1937 of 677 or more than 34 per cent. This should challenge us individually. It is a common responsibility, not just the responsibility of those who are working in our colleges. No replacements, no profession. There must be enough new students of good quality who believe in osteopathy, not only to replace losses, but also to increase our numbers if we would continue as a profession.

When we exact higher standards from our unendowed colleges, it is our responsibility to aid them in meeting the added load. We are in a period of adjustment to increase standards. In studying the following listing of students by colleges for the past fifteen years, note that:

Los Angeles required the two years of preosteopathic work in the fall of 1936;

Philadelphia established the one year preosteopathic requirement in the fall of 1934 and the two years in 1937;

Kansas City and Chicago established the two years preosteopathic requirement in the fall of 1938;

Des Moines and Kirksville established the one year preosteopathic requirement in the fall of 1938 and the two years in 1940.

It will be observed from the above that all of the colleges show a decided decrease of students from their best attendance years and three of them have less than one-half as many students as they did in 1937. This is not disaster, but it is disturbing. It can be met successfully, but not by mere wishful hoping.

Los Angeles, while having thirteen less this year than last, shows the most uniform yearly registration and it is encouraging to note that Philadelphia after 10 years of continuous attendance decrease is showing a gain over last year; the only college that does.

There are 266 students in the freshman classes in all of our colleges this fall of 1941. There were 248 last year. Not much gain, but a gain, and thus some encouragement.

WOMEN STUDENTS

In the freshmen classes this year there are twenty-one women. Last year there were twelve. In all of the classes in all of our colleges there are now eighty-seven women, which is 6.75 per cent. Around the late nineties and early nineteen hundreds it was over 20 per cent. Some classes ran as high as 26 per cent. This difference, as remarked before, would suggest a field of interest for our women's organizations. In 1940-41 there were 1,146 women studying for the M.D. degree and 7,470 listed as practicing medicine in the United States.

While we have been experiencing this 34 per cent drop in the past five years the sixty-seven medical colleges in 1936-37 had 22,095 students working for the M.D. degree, while in 1940-41 they report 21,379, a drop of a little more than 3 per cent. This year they had 108 more students than last year.

All M.D. state boards now require two years of college work except California and Connecticut, which require one year, and Massachusetts, Missouri, and Nebraska, which require a high school course or its equivalent.

For the seven preceding years Missouri has stood at the top as to number of students sent to osteopathic colleges in proportion to population, but this year yielded this position to California which also sends the largest total number of students, though it is twelve less than last year. Missouri sent twenty-nine less than last year, and her 111 students is the smallest number she has sent in the fifteen years. California sent a student for every 32,277 of her population. Missouri, second, sent one for every 34,096. In 1937 she sent one for every 18,200. If all states did as well as California as to number of students in proportion to population we would have over 4,000 students in our colleges, and a little less than 4,000 if all did as well as Missouri. We would have then over three times as many students as we have if all of the states did as well as these two states.

The five states sending the largest total number of students this year are California, 214; Pennsylvania, 180; Missouri, 111; Ohio, 95; Michigan, 94. All sent less than last year, though Pennsylvania sent only one less.

A glance at the large table shows that but three of the states which sent over five students, sent more this year than last. Washington sent 8 last year, 9 this year; Texas 37 last year, 39 this year; New York 83 last year, 87 this year; Connecticut and Oregon were the same this year as last.

New York, it will be noted from the chart, touched an all-time low record four years ago and since then has shown a steady increase, though still far from its best years

Iowa hits an all-time low this year. It has sent in one year, two and one-half times as many.

The following states also reached an all time low: Delaware, Illinois, Indiana, Kansas, Massachusetts, Maine, Missouri, Montana, Nebraska, Ohio, South Dakota. This is the first year that Ohio has gone below 100 sudents. Canada also reached an all-time low. War conditions, of course, are operative there.

The six states of Alabama, Louisiana, Maryland, Mississippi, Nevada, North Carolina, with a combined population of 14,903,751 and 165 osteopathic physicians sent no students at all.

Delaware, New Mexico, Hawaii, Alaska and the District of Columbia sent but one student each.

CONCLUSION

These studies have demonstrated that the states with independent boards have been supplying from 65 to 70 per cent of our students, though they have less than one-half of the population.

There has been a decrease of 679, or over 34 per cent, in our student population since 1937.

In proportion to population we get few students from the southern states.

The states which have held the record for largest number of students in proportion to population are Montana, Rhode Island, Missouri, and California. Montana's one year record of a student for every 14,000 people has never been equalled and Missouri has held the record for the largest number of students in proportion to population for the greatest number of years.

There has been a marked decrease in the percentage of women students in our colleges.

Based upon indications already evidenced in some of the states having basic science laws, such laws will act still further to lower the student contributions of those states by lowering the osteopathic population which sends the students.

The following, through their effective cooperation, again have made this tabulation possible and we are grateful to them:

Dean L. B. Whetten, Chicago College,

Dean J. M. Peach, Kansas City College,

Russell C. Erb, Associate Dean, Philadelphia College,

Miss Marie A. Johnson, Registrar, Kirksville College,

Mrs. K. M. Robinson, Secretary, Des Moines Still College,

Miss Vera E. Potter, Registrar, Los Angeles College,

Dr. Joseph C. Basso, Massachusetts College

STATE PROVINCE OR COUNTRY	POPULATION	NUMBER OF STUDENTS														
		'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41
Ala.	2,832,961	0	0	1	2	2	3	4	5	2	4	2	1	2	1	0
Alaska	72,524															1
Ariz.‡	499,261	2	4	3	3	6	8	6	6	9	6	9	5	4	3	3
*Ark.‡	1,949,387	3	3	2	3	3	4	4	2	3	5	7	5	3	4	2
*Calif.	6,907,387	187	143	117	153	181	199	217	214	253	207	204	221	194	226	214
Colo.‡	1,123,296	22	24	18	17	15	14	11	15	13	12	13	11	12	12	11
*Conn.‡	1,709,242	17	12	15	12	11	7	15	12	12	11	10	12	13	15	15
Del.	266,505	7	5	6	7	8	6	7	5	2	2	3	4	3	3	1
D. C.†	663,091	1	1	1	2	1	1	1	1	1	2	3	1	1	1	1
*Fla.‡	1,897,414	12	11	11	8	10	11	11	18	16	12	18	19	22	21	13
*Ga.	3,123,723	6	4	8	7	10	12	10	9	13	15	19	20	13	12	8
*Idaho	524,873	5	5	4	2	0	4	6	6	8	8	5	6	4	3	5
†Ill.	7,897,241	107	94	99	111	97	99	92	91	80	90	145	123	103	96	72
Ind.	3,427,796	26	28	19	23	19	13	12	15	16	18	19	14	13	14	10
*Iowa‡	2,538,268	91	100	94	95	97	100	107	112	91	81	70	59	57	59	42
*Kan.§	1,801,028	59	74	70	79	84	75	62	70	63	77	87	67	57	45	34
Ky.	2,845,627	2	4	3	5	8	4	5	4	4	11	8	9	8	7	5
*La.	2,363,880	4	3	0	1	1	1	1	1	1	2	2	2	2	0	0
*Me.	847,226	21	23	23	26	28	28	26	32	29	28	26	18	20	18	10
*Md.	1,821,244	3	3	1	1	3	3	1	2	2	2	4	4	3	3	0
Mass.	4,316,721	119	127	151	74	89	94	97	99	83	75	68	64	47	36	25
*Mich.‡	5,256,106	77	66	73	72	83	80	77	110	111	136	172	146	142	125	94
*Minn.‡	2,792,300	33	41	29	24	22	16	16	11	14	20	22	27	24	18	14
*Mo.	3,784,664	144	135	122	128	135	164	184	187	185	193	198	176	159	140	111
Miss.	2,183,796	0	0	0	0	0	0	0	1	1	3	3	1	1	0	0
*Mont.	559,456	23	36	33	38	24	18	14	11	16	17	18	16	8	9	7
*Neb.‡	1,315,834	31	33	42	51	51	48	44	48	37	33	31	25	27	23	15
*Nev.	110,247	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
N. J.	4,160,165	55	53	56	69	72	77	82	90	88	84	74	76	71	62	58
N. H.	491,524	6	7	6	8	3	2	4	6	7	8	6	5	5	3	7
N. Y.	13,479,142	103	98	110	128	136	113	108	116	113	102	94	64	72	83	87
*N. M.‡	531,818	2	2	0	0	3	2	2	3	5	3	3	3	1	1	1
*N. D.	641,935	15	8	8	5	3	1	2	4	2	5	5	3	1	4	3
*N. C.	3,571,623	2	1	2	1	3	6	6	8	9	8	8	6	5	1	0
†Ohio	6,907,612	172	161	179	180	159	146	144	145	137	139	166	165	148	130	95
*Okla.‡	2,336,434	10	8	9	10	19	23	27	32	37	45	39	32	31	31	20
Ore.‡	1,089,684	14	20	17	13	11	6	5	10	11	11	7	6	6	8	8
*Pa.	9,900,180	133	124	134	143	174	148	144	172	189	196	211	212	202	181	180
Porto Rico	1,869,255															1
R. I.‡	713,346	21	21	30	31	33	34	26	23	16	13	9	8	8	5	4
*S. C.	1,899,804	0	0	0	0	0	3	1	1	1	1	1	2	2	2	2
*S. D.**	642,961	8	10	11	15	13	9	9	13	9	9	11	10	9	4	2
*Tenn.	2,915,841	5	6	2	4	6	4	3	2	3	5	7	8	8	7	4
Tex.	6,414,824	14	17	23	24	20	16	23	25	22	37	26	33	41	37	39
*Utah	550,310	0	0	1	1	1	4	4	4	1	0	2	1	2	3	3
*Vt.	359,231	14	9	5	2	2	7	13	16	18	15	14	9	13	9	3
Va.	2,677,773	2	2	2	2	2	2	2	4	5	4	4	6	4	4	4
*Wash.‡	1,736,191	18	16	9	15	8	9	7	9	10	12	10	9	12	8	9
*W. Va.	1,901,974	4	3	5	5	7	3	5	4	7	7	8	8	7	12	9
Wis.‡	3,137,587	21	17	20	25	23	25	19	21	21	26	34	31	32	28	22
Wyo.	250,742	1	2	1	4	4	4	4	3	6	4	5	7	6	5	3
Armenia				1	0	0	0	0	0	0	0	0	0	0	0	0
Australia	6,960,891	1	1	0	0	0	1	0	2	2	2	2	2	4	3	3
Austria	7,900,014															1
Bermuda I.	27,789			1	0	0	2	1	1	1	1	0	0	0	0	0
Brazil	41,477,827	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Canada	10,374,196	22	42	34	41	36	29	27	20	27	35	48	45	44	28	14
China	474,787,386				2	2	2	0	0	0	0	0	0	0	0	0
Costa Rica	527,690						1	1	1	1	0	0	1	1	1	1
Colombia	7,851,000				1	0	0	0	0	0	0	0	0	0	0	0
Cuba	3,638,174					1	1	0	0	0	0	0	1	0	0	0
Czech.	14,726,158		1		0	0	0	0	0	0	0	0	0	0	0	1
Denmark	3,590,000						1	0	0	0	0	0	0	0	0	0
England	37,932,137	6	7	3	12	9	9	10	7	6	10	9	9	9	4	2
France	41,834,923				0	0	0	0	0	0	0	0	0	0	0	0
Germany	65,300,000						2	0	0	0	1	0	1	0	1	1
*Hawaii	423,332	2	0	1	2	0	1	0	1	3	2	3	4	3	2	1
Holland	7,832,175									1	0	0	1	0	0	0
Ireland	2,971,992		1	1	2	2	1	1	0	0	1	1	2	1	0	0
Japan	66,296,000	3	3	0	2	2	1	0	0	0	0	0	0	0	0	0
Mexico	16,404,030	2	2	0	0	0	1	0	1	1	1	0	0	0	0	0
New Zealand	1,587,547			1	0	0	0	0	0	0	1	1	1	1	0	0
Norway	2,814,194	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
P. I.	12,590,369	1	0	0	6	1	1	1	1	1	1	1	0	0	0	0
Rumania	17,500,000													1	1	1
Russia	156,168,700		2		3	4	3	0	1	1	0	1	1	0	1	1
Scotland	4,842,554	2	1	1	1	1	2	1	3	3	1	1	1	0	0	0
S. Africa	6,929,000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sweden	6,162,446	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Venezuela	3,226,000				1	0	0	0	0	0	0	0	0	0	0	0

* States with Independent Osteopathic Boards.
† Has an osteopathic examiner or a committee of osteopathic physicians.
‡ States with Basic Science Boards.
§ Has a Basic Science law which does not apply to D.O.'s.
** States with Basic Science law to go into effect in 1943.

NOTE—The population of American States is taken from the 1940 census, and of Canadian provinces and other territories within the British Empire from the 1931 census (except South Africa). The figure for Australia is an estimate made on June 30, 1939. Other populations are from estimates and censuses made within the last five years.

"... The Sincerest Flattery"

RAY G. HULBURT, D.O.
Chicago

Was the osteopathic profession wise in setting up the Division of Public and Professional Welfare to bring about closer correlation of professional activities and to educate the public?

The answer may be found in the fact that the M.D.'s followed us. On May 15, 1937, the Division of Public and Professional Welfare sent out its first communication. On October 14, 1939, (two and one-half years after P. and P.W.'s advent) the first letters and literature were mailed to physicians from the offices of an M.D. organization—"National Physicians' Committee . . . "—henceforth referred to herein as N.P.C.

Was the osteopathic profession wise in the form of P. and P.W. setup?

Our readers are familiar with that organization—a former A.O.A. President is chairman, and production goes on at a Chicago office. Again note what seems like imitation: The chairman of N.P.C. is a former A.M.A. president living in a distant state. Its work is done at a Chicago office.

Note carefully the dates in the first two paragraphs above, and get this boast, which N.P.C. mailed to all M.D.'s in the United States on October 17, 1941: " . . . At an earlier date and **to a greater extent than any other group in the United States,** American Medicine sensed and began to understand the need for and potential value of Educational Propaganda." (Emphasis ours.)

Are the financial needs of P. and P.W. somewhat out of line?

At the start, this organization asked for $40,000 for the first year's work. That was the minimum on which it was felt that its tentative beginning plans could be financed. It should have had that sum in the spring of 1937, and should have gone on from such a start. But only about $20,000 was contributed the first twelve months, and less than $26,000 has been spent in any one year. Compare that with the funds going to the M.D. organization, wholly apart from dues.

"During the past two years, individual physicians contributed to the N.P.C. effort to the extent of approximately $100,000. Individual local medical societies have made systematic canvasses of the membership of their societies respectively, and have provided financial support in amounts ranging from $500 to, in one instance, more than $3,000."

Osteopathic organization and effort are of such a nature that P. and P.W. has sought support almost or quite exclusively from D.O.'s. But "42.2 per cent of N.P.C. funds have come from sources other than physicians." Looking at the $100,000 contributed by individual physicians, and the sums given through medical societies, make your own guess as to the grand total.

Was P. and P.W. on the right track in October, 1941, when it mailed a progress report and a plea for support to members of the A.O.A., including those who had contributed to its support as well as those who were being invited to give?

Evidently the M.D.'s would think so. On November 1, N.P.C. sent a letter to all M.D.'s in the country. It said: "[This] is not an appeal for money from those who have made possible the past efforts of the Committee. It is hoped, however, that the enclosures will receive your most careful consideration, and that they may help provide the incentive for the cooperation of other tens of thousands of physicians, either directly or through local medical society participation."

That expression—"other tens of thousands of physicians"—does its very magnitude make it an obstacle? Or does the size of it constitute a challenge to members of the osteopathic profession? It is a challenge to us, to do proportionately as well, and even better, in accomplishing our somewhat related task—it is a challenge that will be met.

Does P. and P.W., by sending reports and other communications which are too long, presume too much upon the time of osteopathic physicians?

Let us see with what the M.D.'s followed our latest report which, as just stated, went out in October, 1941. N.P.C., in its mailing which went a few days later, sent nine closely-typed mimeographed pages and a printed booklet, in order that M.D.'s might know what it was doing.

Is the Division of Public and Professional Welfare on the right track in asking for support, in the form of voluntary contributions over a period of years, apart from A.O.A. dues?

Again compare that with what M.D.'s did, following our lead. N.P.C. does not draw at all on A.M.A. funds. It reports that its effort "has been made possible by the personal work and financial support of approximately 11 per cent of the physicians of the United States, **and substantial aid from lay sources.**" (Emphasis ours.)

This means that individual M.D.'s, to the number of 50 per cent more than all the D.O.'s in the world, already have contributed to this work. All their immense contributions have been almost duplicated by lay people. And now they seek support from "other tens of thousands of physicians."

Was P. and P.W. right, at the beginning, in asking for pledges to cover a period of years? Is it right in continuing that policy, rather than counting on year-to-year contributions?

N.P.C. says: "To carry forward all phases of a carefully conceived and well-defined plan of nation-wide effort will require substantial funds yearly, and for a minimum period of three years."

Are there other parallels between the activities and the problems of P. and P.W. and N.P.C.?

There are. N.P.C. has not even begun to attempt the accomplishment of all of its dreams. Why? "The policy of the N.P.C. has been to carry forward effectively segments or parts of a broad program. The extent of its activities has been determined by funds available for operation."

Many of our friends call attention to many things which the Division of Public and Professional Welfare should do. Sometimes there is an inclination even to withhold support because some of them are not done. The things accomplished are remarkable, considering the funds available. As more money is contributed, more help can be employed and more work will be done.

Through what channels have N.P.C. efforts been directed?

At the beginning, in 1939, it mailed approximately one million letters. It put out approximately two and one-half million booklets. It carried two two-page colored advertisements in the *Saturday Evening Post,* and full page advertisements in nearly 100 daily newspapers.

Has it continued with those efforts?

It has, and has broadened them. As one example: "For almost a year—every week for more than forty weeks—there has gone forward from the office of N.P.C. an editorial to more than 12,000 newspapers with an estimated 40 million readers weekly. They are short, concise, and timely. Each and every editorial has a short concluding paragraph exclusively devoted to an explanation and praise of our system of independent medical practice."

What are the objects of N.P.C. efforts?

They "were all concentrated on carrying through to the general public an understanding of the outstanding fundamental achievements of American Medicine . . . " Put in another way:

"1. Clarifying the basic issues to a point of understanding for and within the profession;

"2. Promoting the extension of the distribution of high quality medical care;

"3. Educating the public to a point of understanding on the basic meaning of, and the effective results from, our system of independent medical practice."

In other words, N.P.C. is not an exact parallel of P. and P.W.?

That is correct. It is not known to be particularly anti-osteopathic. It was organized for the purpose of helping to maintain the practice of medicine somewhat on the same economic basis as in the past as a barrier to the encroachments of state medicine. But the point we would make is that in undertaking a gigantic public educational enterprise N.P.C. has operated along lines so nearly parallel with those which already had been followed for two years and more—with surprising effectiveness—by P. and P.W.

Need we raise again the question as to who pays the freight? Are the doctors still paying?

On October 17 of this year, a single county medical society sent in a check for $2,635.47, with a list of 224 physicians participating in the contribution. That is well over $11 for each of those physicians. That—from one county medical society—is more than one-fourth of the voluntary contribution which P. and P.W. has asked from the entire osteopathic profession for this year. But it is far less than P. and P.W. needs to do the things which the profession insistently demands.

But get this sentence: "There can be no question but that, if 150,000 physicians fully understood the N.P.C. purpose and fully comprehended the nature and subtlety of its operation, each and every one would desire to participate in its efforts."

Have M.D. payments been effective?

Read the following from N.P.C.'s latest profession-wide broadside and you have the answer: "There is but one way. Its potency has been demonstrated by American physicians—**Educational Propaganda.** The methods and the preliminary educational efforts of the physicians have been unusually—in some respects spectacularly—effective."

The pictures of P. and P.W. and of N.P.C. are seen to be strikingly parallel. The objectives are not the same, but the techniques used by P. and P.W. have been followed largely by N.P.C. At first glance, we may be staggered by the very immensity of their exchequer and their undertakings. On second thought, however, we realize that it is not essential for P. and P.W. to have as large funds as N.P.C. uses. P. and P.W. has done remarkable things with such sums as were available. It could do still more striking things with twice as much.

On the other side, let us say that even though it is not essential that we have as much as N.P.C. has, yet we do have a bigger stake to stand for and to defend. We have farther to go. Osteopathy is not as well established in the thinking of the public as allopathy is, and it must be so established. We have a bigger stake—and we must and will defend it. This depends upon you, and upon your continued support. Your pledge and your check for the support of the Division of Public and Professional Welfare should be sent today, to the chairman in your state or to the American Osteopathic Association.

Department of Professional Affairs

S V. ROBUCK, D.O.
Chairman
Chicago

PROGRESS REPORTS

The following reports have been submitted to the Chairman of the Department of Professional Affairs:

Bureau of Professional Development, Committee on Research, Dr. Georgia A. Steunenberg, Chairman.

The Committee on Research has been quite active since the convention. Dr. Louisa Burns is working hard on her project, "Vertebral Lesions in Cardiac Pathology." The Chicago College has met the requirements of the Committee and is working on the project, "The Low-Back Problem." Dr. J. Stedman Denslow of the Kirksville College continues his work in "Electromyographic Studies." The Committee is cooperating with Dr. Frederick A. Long, Chairman of the research council of the American Association of Osteopathic Colleges, extending all the aid it can in his effort to develop and coordinate osteopathic research in the colleges.

Committee on Ethics and Censorship, Dr. O. M. Walker, Chairman.

There have been twenty-five cases referred to this committee for its consideration. Seven were cases of osteopathic physicians who had written either to the Central office or to this Committee for guidance in the matter of publicity. The remaining eighteen cases were of osteopathic physicians who had in some way violated the Code of Ethics of the A.O.A.

Committee on Professional Visual Education, Dr. Ralph W. Rice, Chairman.

Dr. Rice went to Seattle, Washington, in August and "shot" a film of treatment as given by Dr. E. Roscoe Lyda for a right lateroflexion lesion of the second on the third thoracic vertebra.

The Committee has prepared a manuscript which will be helpful in presenting the second lumbar research film to lay audiences.

Dr. Rice has prepared a catalog giving a list, a short description, rental fees, etc., of all films in the A.O.A. library. It is ready for distribution to anyone who is interested.

Committee on Special Membership Effort, Dr. Frank MacCracken, Chairman.

This Committee has been continuously active in increasing A.O.A. membership. Among its many functions a "Professional Loyalty Day" was conducted on October 9.

ATHLETIC FILMS AVAILABLE

The basketball season is on and for those who give professional care to basketball players and other athletes there's a film in the A.O.A. library dealing with the two most common athletic injuries—charley horse and the sprained ankle. This film shows how Dr. Wilbur Bohm, B.S., M. Ed., D.O., cares for these injuries. Dr. Bohm has an enviable reputation because of his many successful years at the State College of Washington, Pullman, Washington, caring for its athletes and teaching in the Department of Physical Education.

For those who wish an osteopathic film on athletic injuries for public use a lay edition of this film is also available at the A.O.A. library. It will be helpful to coaches and of interest to most any audience.

For further information write the American Osteopathic Association, 540 North Michigan Avenue, Chicago, Illinois.

RALPH W. RICE, D.O., CHAIRMAN
Committee on Professional Visual Education

Every student and physician should attempt at least one research problem. The results may not set the world afire, but the individual will gain the mental satisfaction of knowing more than anyone else about a small point or two. He also will learn the difficulties and pitfalls of research, and develop critical judgment and a healthy scientific scepticism as an antidote to the therapeutic credulity so easily bred by pharmaceutical detail men.—Wilbur C. Davison, M.D., *Jour. Assn. Am Med. Colleges,* Sept., 1941.

Department of Public Affairs

WALTER E. BAILEY, D.O.
Chairman
St. Louis

BUREAU OF BUSINESS AFFAIRS

R. C. McCAUGHAN, D.O.
Chairman
Chicago

COMMITTEE ON ENDOWMENTS

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Chairman
Hollywood, Los Angeles

MONEY TO BE HAD IF WE QUALIFY

It is difficult to realize the extent of the dislocations which are taking place in research and educational work in countries involved in the present war. For instance, many of the foreign scientific laboratories supported by the Rockefeller Foundation have been destroyed along with the institutions in which they were housed. The Foundation has closed its Paris office and moved its Shanghai office to Manila. It has recalled its personnel from Egypt, Rumania, and Turkey. It will be a long time before research institutions throughout war-torn countries are rehabilitated if, in fact, this ever occurs. In the meantime, readjustments of necessity will be made by large foundations that have supported foreign research. America may well become the arsenal of human education as well as the "Arsenal of Democracy."

It is interesting to note that gifts to charity in the first six months of this year were only 10 per cent less than in the first six months of 1940. In commenting upon this, the *Chicago Tribune* of August 21, 1941, says:

"If there is anything unexpected in these figures, it is the moderate rate of decline. Evidently the habit of giving is not easily broken, and the full effect of high income taxes has not yet been felt. As time goes on, however, it will be increasingly difficult to find support for educational and charitable institutions. The money which the tax collector takes is money which supports the universities and medical schools. The various welfare societies and the laboratories won't get it."

While the above statement is true, we find that now, as in the past, those with money to give away are giving money to their favorite charities which would otherwise go into taxes. Gifts, large and small, are so frequent that but few of them are brought to public notice by newspaper mention; yet we find the Joseph Whitehead Foundation giving $550,000 to the Emery University for the construction and equipment of a surgical building. The Rockefeller Foundation gave Cornell University $600,000 for the endowment of the Department of Public Health and Preventive Medicine. The estate of John W. Steel appropriated $600,000 for Yale's new Medical Library, which was dedicated on June 15, 1941. Dr. E. C. Brown of Portland gave the University of Oregon $400,000 to establish a Director of Public Health and Preventive Medicine in the Medical Department.

These are just a few of the larger items which have appeared in print recently. It would take pages to list the smaller ones about which this Committee has information. Such, for instance, as $2,000 to Columbia University for work on metabolism; $2,500 to Johns Hopkins for work on compounds of sulfanilamide; $2,000 to the University of Illinois for research on alkaloids of the senicio species; $2,000 to Harvard for work on absorption of gases by various materials. This is just a sample of literally hundreds of other small and large gifts for specific enterprises, to various institutions equipped to carry on research work.

The National Foundation for Infantile Paralysis has announced the distribution of new grants to various institutions, largely medical schools and hospitals from coast to coast, varying in amounts from $400 to $9,200.

The conditions in foreign countries brought about by the war have stimulated large gifts of money and materials to the American Red Cross. When the figures are published, people will be astounded by the amount of relief money which has been given by the people of the United States to the American Red Cross.

Even though taxes increase, new fortunes will be made in defense industries and commercial activities related to them. These fortunes will be distributed to various eligible charitable enterprises, largely in the United States. Institutions eligible for portions of this money will be those establishing educational programs and research projects which appeal to those who have money to give away.

Those who are fortunate and sagacious enough to have money to give away have reduced their requirements to definite formulae concerning personnel and business management of receiving organizations. In order to qualify for gifts, it therefore behooves every institution in our profession to study these formulae and practices, and conform largely to them. There seems no valid reason why osteopathic institutions should not appeal to those who have money to give. Our institutions should be particularly appealing to those who have benefited by osteopathic attention. The tie, however, will not be strong enough to induce a person of means to give his money to an institution whose governing board and whose business management does not assure permanent, meticulous attention to the donor's wishes, neither will a donor be interested in giving money for research unless some tangible evidence can be given of the institution's ability to conduct such research.

In other words, competence attracts gifts. Competence also is dependent somewhat upon gifts. The osteopathic profession is now at that stage in its existence where it must generate knowledge as well as impart it. In order to do this, it must qualify for gifts from the public. If we do qualify, there is no reasonable doubt that our institutions may become the most heavily endowed medical institutions in the United States.

W. V. G.

RE-REGISTRATION OF OSTEOPATHIC LICENSES

The following states require re-registration of osteopathic licenses on January 1, 1942, with payment of fees shown:

Arizona—$3.00. Address the Secretary, J. H. Patterson, M.D., 234 N. Central Ave., Phoenix.

California—$5.00. Nonresidents, $2.00. Address the Secretary-Treasurer, Lester R. Daniels, D.O., 307 Forum Bldg., Sacramento.

Connecticut—$2.00. Address the Secretary, C. Raymond Watts, 11 Sherman St., Hartford.

Florida — $5.00. Address the Secretary-Treasurer, Emmett W. Flynn, 109½ W. College Ave., Tallahassee.

Minnesota — $2.00. Address the Secretary-Treasurer, Ernest S. Powell, D.O., 924-25 New York Bldg., St. Paul.

New York—$2.00. Address Robert R. Hannon, M.D., New York State Education Dept., Albany.

Pennsylvania—$3.00. Address the Secretary, Miss Ann L. Hoffman, Bureau of Professional Licensing, Harrisburg.

Texas—$2.00. Address the Secretary, T. J. Crowe, M.D., 918-20 Texas Bank Bldg., Dallas.

Fishbein says: "In the National Physician's Committee the American medical profession possesses an organization to accomplish more for education of the American people regarding the fundamental standards inherent in the establishment of a high quality of medical service for the people of the United States, than it would possess in any other organization."—See article on page 200.

Current Osteopathic Literature

Abstracted by R. E. Duffell, D.O.

JOURNAL OF OSTEOPATHIC OPHTHALMOLOGY, RHINOLOGY & OTOLARYNGOLOGY
BETHLEHEM, PA.

Vol. 23: No. 3 (July-Aug.-Sept.), 1941

The O. & O. L. Convention (Atlantic City).—p. 7.
The Value of Intermediate X-Ray Therapy to Eustachian Tubes Following Reconstruction. J. M. Shellenberger, York, Pa.—p. 10.
A Review of One Hundred Cases Treated by Per-Oral Endoscopy. J. Ernest Leuzinger, D. O., F. I. S. O., and Raymond B. Juni, D. O., Philadelphia.—p. 12.
I. S. O. Convention a Splendid Success.—p. 20.
*Short Wave Diathermy in Acute Sinusitis. Roy G. Trimble, D. O., Montezuma, Iowa.—p. 21.
President's Address, 1941 O. & O. L. Convention. Ralph S. Licklider, D. O., F. I. S. O., Columbus, Ohio.—p. 23.
The Nasal Mucous Membranes in Health and Disease. C. Paul Snyder, D. O., F. I. S. O., Philadelphia.—p. 25.
Multum in Parvo. T. J. Ruddy, D. O., F. I. S. O., Los Angeles.—p. 31.
Round Table Discussions.—p. 33.
Sinus Treatment by Nasal Adjustment. L. M. Bush, D. O., New York.—p. 44.

***Short-Wave Diathermy in Acute Sinusitis.**—Trimble reports that in 100 cases of acute sinusitis the routine use of short-wave diathermy has given very gratifying results with but few exceptions in a minimum length of time.

All patents received preliminary nasal shrinking. The six meter short wave was used for an average of 15 minutes. The air spaced sinus electrode was placed over the sinuses and another electrode between the shoulders and covering the cervical part of the spine. After short-wave treatment, nasal irrigation was performed and the patients given osteopathic manipulative treatment to correct any cervical or upper thoracic spinal lesions.

OSTEOPATHIC DIGEST
PHILADELPHIA

Vol. 15: No. 1 (October), 1941

Osteopathic Education. E. O. Holden, D. O., Philadelphia.—p. 1
College Opens—42nd Session.—p. 2.
Opening Address. Edward G. Drew, D. O., Philadelphia.—p. 2.
Endowment Fund (Auditor's Report).—p. 4.
*Scientific Supplement: The Effects Upon the Blood Pressure and Pulse Rate of Cervical Soft Tissue Manipulation in a Group of "Normal" College Students. Frederick A. Long, D. O., Philadelphia.—p. 6.
Graduate Courses Announced.—p. 8
Those Who Serve.—p. 10.

***The Effect Upon the Blood Pressure and Pulse Rate of Cervical Soft Tissue Manipulation in a Group of "Normal" College Students.**— This is the sixth in a series† of reports dealing with the effects upon the blood pressure and pulse rate of various manipulative procedures. The work has been done in the Department of Osteopathic Research at the Philadelphia College of Osteopathy.

In this present experiment the effects of manipulation of the posterior cervical soft tissue are reported. The subjects used were sixty male students of the college, half of whom were given manipulation, the other half acting as controls.

Dr. F. A. Long describes the procedure used in conducting the experiment as follows:

"Upon reporting for the experiment the subject and control were appraised of the general nature of the experi-

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1. Long, F. A.: The Effects on Blood Pressure and Pulse Rate of Sudden Spinal Joint Mobilization in the Cervical and Upper Thoracic Regions. Osteopathic Digest, 1937 (Oct.) 3:5. Abstracted in Jour. Am. Osteop. Assn., 1937 (Dec.) 37:163.

2. Long, F. A.: The Effects of Suboccipital Pressure on Blood Pressure and Pulse Rate. Osteopathic Digest, 1938 (Feb.) 3:3. Abstracted in Jour. Am. Osteop. Assn., 1938 (May) 37:428.

3. Long, F. A.: The Effects of Upper Thoracic Pressure on Blood Pressure and Pulse Rate. Osteopathic Digest, 1938 (Nov.) 4:11. Abstracted in Jour. Am. Osteop. Assn., 1939 (Jan.) 38:265.

4. Long, F. A.: The Effects on Blood Pressure and Pulse Rate of Sudden Spinal Joint Mobilization in the Lower Thoracic and Lumbar Regions. Osteopathic Digest, 1940 (Jan.) 5:7. Abstracted in Jour. Am. Osteop. Assn., 1940 (Feb.) 39:308

5. Long, F. A.: The Effects on Blood Pressure and Pulse Rate of Sudden Spinal Joint Mobilization of the Entire Spine in a Group of "Normal" College Students. Osteopathic Digest, 1941 (Apr.) 14:9. Abstracted in Jour. Am. Osteop. Assn., 1941 (July) 40:515.

ment to be carried out. The coat, vest, collar, tie, and top shirt were removed. Subject and control assumed the supine position on straight-type osteopathic treatment tables and rested in this position for ten minutes. At the end of this time, systolic and diastolic blood pressures and pulse rates were determined . . . In the manipulated subject, the following procedure was carried out immediately after the original readings were made: The operator stood at one side of the table and manipulated the posterior cervical soft tissues of the opposite side. Manipulation consisted of repeated stretching of the cervical muscles by forces exerted at right angles to their direction and without the application of traction or excessive rotation, these latter being controlled by the operator's other hand. The fingers of the operator's manipulating hand started at a point just lateral to the spinous process and worked laterally around the posterior cervical region. The extent of the area covered was from the suboccipital region to the level of the seventh cervical vertebra. Manipulation was carried out in this manner for two and one-half minutes, and then the opposite side was similarly manipulated for two and one-half minutes. Immediately upon conclusion of the manipulation, systolic and diastolic blood pressures and pulse rates were determined in subject and control. After a rest period of five minutes, blood pressures and pulse rates were again determined. This concluded the experiment."

RESULTS

Immediately following the experiment both subjects and controls evidenced a drop in average systolic and diastolic pressure. There was no significant difference in the extent of this drop between manipulated subjects and controls. With regard to pulse rate average changes, here the two groups were reversed; in the manipulated subjects there was a gradual decrease in pulse rate immediately after manipulation while in the controls there was a slight gradual increase in rate.

It may be concluded from these experiments that manipulation of the posterior cervical soft tissues of "normal" college students results in no significant changes in either blood pressure or pulse rate.

Current Medical Literature

Abstracted by R. E. Duffell, D.O.

Observations on Pneumonia of Infants at Cook County Hospital

The period of this report covers January and February, 1941, during which time 200 infants under one year of age suffering with primary pneumonia were taken care of at the Cook County Hospital, Chicago. Many of these infants were desperately ill on admission; they were blue, very dyspneic, and showed evidence of a considerable degree of paralytic ileus with abdominal distention. They required almost constant and heroic symptomatic therapy to combat their extreme respiratory embarrassment.

On admission all the infants were placed immediately on sulfathiazole. If the drug could not be taken by mouth because of vomiting and distention, it was given as the sodium salt intravenously.

The dosages of sulfathiazole in powdered form were approximately 1½ grains to a pound of body weight a day divided into six equal amounts and administered at four hour intervals. As a rule, an initial dose of one-half the total 24-hour dose was given. The average number of days the patients were kept on this dosage was 6.9.

It is stated that symptomatic therapy played an extremely important role in the care of these cases. Many were saved by the persistent and untiring efforts directed to combat cyanosis and abdominal distention. The following measures were employed.

Parenteral fluid—2.5 to 5 per cent dextrose in normal saline solution or similar fluids subcutaneously and intravenously.

Whole blood—intramuscularly to all infants on admission as a routine measure; 75 to 100 cc. of whole preserved blood by slow intravenous drip as indicated.

Oxygen—given to all infants who were dyspneic and cyanotic.

Pitressin (½ to 1 ampoule) or prostigmine (½ to 1 cc. 1:4000 solution) hypodermically, soap-suds enemas, heat to the abdomen, and an indwelling rectal tube—to combat abdominal distention.

Caffeine and adrenalin, either singly or in combination, intramuscularly and intravenously, artificial respiration, external heat and reverse Fowler's position—to combat shock.

Sedation (seconal rectally in dosages of 1/10 grain to a pound of body weight) and spinal puncture—to control convulsions.

The causative organism was not obtainable in 59 or 29.5 per cent of the cases. In ten cases no typing was done. Where pneumococci were obtained, types XIX and XIV were the commonest, with 11 and 8 cases respectively.

The mortality in this series of 200 cases of infant pneumonia was only 2 per cent.

The report was submitted by Joseph Greengard, M.D., William B. Raycraft, M.D., and Louis S. Frank, M.D., and published in the *Illinois Medical Journal*, November, 1941.

M.D.'s Include Manipulation in Treatment of Brachial Plexus Syndrome

In an article in *Annals of Internal Medicine*, February, 1941, Stacy R. Mettier, M.D., and Charles S. Capp, M.D., discuss the causes and treatment for a condition characterized by pain and muscular stiffness about the neck and in the shoulder girdle, and by the radiation of pain down the arm or to the precordial region.

Thirty patients complaining of this syndrome were seen by the writers during a period of less than three months. Many of them had wandered from one clinic to another in an endeavor to get relief. "Many had resorted to forms of treatment not regularly recognized by the medical profession," say the writers who state also that "It was of interest to learn that those who had received a special form of treatment that was basically manipulative in nature had definite relief from their discomfort."

Roentgenograms of the cervical vertebrae taken in the anteroposterior, lateral and oblique projections were secured in each of the thirty cases. Evidence of hypertrophic arthritis was found in approximately two-thirds of the cases. In these the x-rays taken in the oblique projection showed narrowing of the intervertebral foramina by the ingrowth of the marginal osteophytes. The writers say: "The decrease in vertical diameter of the foramina was furthered in many instances by close approximation of the vertebral bodies due to thinning of the intervertebral discs. It is evident from this study that the combination of these two processes may impinge upon the nerve trunk as it passes through the involved foramina or may affect the sympathetic fibers controlling blood flow."

In the remaining one-third of the cases there was no evidence of arthritis or any other pathologic process in the x-ray films. No explanation is given for the symptoms experienced by the patients.

Treatment given by Mettier and Capp in each of these cases, whether or not there was evidence of arthritis, consisted of "heat to the neck, massage, manual traction and manipulation." According to them the majority of patients are relieved of pain with this regime.

Book Notices

HANDBOOK OF OSTEOPATHIC TECHNIQUE. By the Staff of the Department of Osteopathic Technique, College of Osteopathic Physicians and Surgeons. Cloth. Pp. 112, with 99 illustrations. Price, $2.50. College of Osteopathic Physicians and Surgeons, 1721 Griffin Avenue, Los Angeles, Calif., 1941.

This little publication is what its name implies—a handbook; a book of reference to be carried in the hand; something that students of osteopathy can use in their practical everyday work.

As Dr. Litton points out in the preface, compilation of the material was started several years ago under the direction of Dr. William W. W. Pritchard, and continued by Dr. Litton with the cooperation of the instructors in the department.

The compilers were fortunate in their choice of a photographer, Mr. Charles K. Wark (C.O.P.S. '42) who knew exactly when and how to expose his films. Clothing was not permitted to get in the way when it was necessary to see exactly what bones and joints were being manipulated, and in many cases the photograph of the manipulation of the living body was accompanied by one showing a corresponding position of the operator's hands upon a skeleton. Perhaps the use of lines and arrows after the pictures were finished would have added even more to the stories they tell.

The book opens with a description of lesions, as included in the standard nomenclature adopted by the Associated Colleges of Osteopathy (now the American Association of Osteopathic Colleges). This is followed by a discussion of soft tissue technic, followed by technic for lesions of the foot, the sacrum, the various regions of the spine, the ribs, the upper extremity, and a chapter on scoliosis. There is no index.

PREVENTION AND CURE OF DEAFNESS THROUGH MUNCIE RECONSTRUCTION METHOD. By Curtis H. Muncie, D. O. Cloth. Pp. 72, with illustrations. Price, $1.50. Published by Dr. Curtis H. Muncie, 502 Park avenue, New York City, 1941.

This little book consists of a collection of articles previously published: "Prevention and Cure of Deafness," "Types of Deafness Successfully Treated," and "Scientific Background—Technical References."

It discusses the methods used by Dr. Muncie in treating victims of deafness, illustrated with charts and graphs to indicate percentages of patients helped and degrees of improvement.

THE MASK OF SANITY: An Attempt to Reinterpret the So-Called Psychopathic Personality. By Hervey Cleckley, B.S., B.A. (Oxon.), M.D. Cloth. Pp. 298. Price, $3.00. C. V. Mosby Company, 3523-25 Pine Blvd., St. Louis, 1941.

This is the only book of its kind that the reviewer knows of. There are many articles and discussions of psychopathic personalities, but none that offers the frank description of the condition and the confusion of medical minds as to how to interpret and handle these people. Here is a division of humanity, of not an insignificant number, that is regarded as normal and yet by the very nature of things is not. The author's case studies are excellently portrayed and leave the reader with a sense of futility as far as the present approach to the problem is concerned. The fact that the behavior and thinking of psychopaths is apparently normal denies them the care of a mental hospital, and their apparent abnormality exempts them from the jails and correctional houses. It is noteworthy that alcoholism plays a prominent role in the superficial aspects of these people, and yet they are not true alcoholics.

Some appreciation of the author's study of the problem may be gained by his discussion in the last two chapters of the book. His conclusion that psychopathic personalities are really phychotic is very interesting as is his label "semantic dementia." Certainly a psychotic state explains their abnormality better than anything else.

The book is interestingly written and should enjoy a wide lay recognition. It can be read with profit by osteopathic physicians, and certainly all specialists in nervous and mental conditions should be familiar with it. It would be helpful to judges and attorneys, to educators and probation officials, and would be very revealing to many temperance workers.

THOMAS J. MEYERS, D.O., F.A.C.N.

THE POLITICAL LIFE OF THE AMERICAN MEDICAL ASSOCIATION. By Oliver Garceau. Pp. 186. Cloth. Price, $2.50. The Harvard University Press, 2 Randall Hall, Cambridge, Mass., 1941.

This book, one of a series of Harvard Political Studies, ought to be read by every physician. The book is intended primarily as a discussion, by an expert in political government, of the internal politics of management of the American Medical Association and its component state and county associations but the author discusses at length the impingement upon the public of the political activities of that association.

Doctors of osteopathy, recognizing that individual doctors of medicine treat individual doctors of osteopathy with propriety, often pose the question of why organizations of M.D.'s uniformly play dirty politics in efforts to prevent osteopathic "competition" in the field of the practice of the healing art. The explanation of that anomaly is contained unmistakably in this book.

A study of the composition of the House of Delegates of the association indicates that a tremendous majority of its directive influence comes from two special classes—specialists, and those who practice in large cities. Both groups have at stake, in governing the policies of the American Medical Association, maintenance of their positions in medical economics (a position which enables them to reap by far the largest financial rewards). The system of political preferment in the association tends to shift the best-prepared physicians to top places of responsibility, but that very situation prevents the House of Delegates from being representative of the total body of the profession.

The author likes to philosophize upon the doctor himself—to dwell upon physicians as individuals and as a class. One derives the impression that he has damned doctors with faint praise. His dissertation on why doctors go into organization work is lengthy. Most of the reasons ascribed to political activities in leadership in the A.M.A. are of the ignoble or critical variety. Some, he says, go into organization work because that is their main business in life. It supplies them with security. Some go in for it as a career. Some get personal pleasure in presiding, in travel, in social contacts. Specialists go in to protect their vested interests in medical economics. Some work at it as an outlet for inherent talent in management. Some are dragged in by the association in order that it may use the personal prestige of such individuals. A few, apparently, are credited with organization activities because of a sense of responsibility to their fellows and to the public for the improvement of private and public health. The tendency is to maintain, in organization work, those persons who once become experienced in it.

Speaking of the exact machinery of the House of Delegates, the author comments on the terrific power of its reference committees and of its permanent bureaus and the gag rule enforced by both.

Referring to the impingement of the association on the public, the author says, "The A.M.A. owes to itself and to the public a better performance than it has recently achieved. It has lost a great deal of public confidence in matters of economic reform. It may some day lose public support in the decisions of malpractice. It has never fully convinced the public about the licensure of orthodox scientific medicine. It will be a tragedy for the whole community if the A.M.A. fails to elicit public respect. The answer lies in the political life within the A.M.A. itself."

We reiterate that every reader of this publication should read this book. It will well repay the time and attention given to its study.

R. C. Mc.

(Book Notices continued on ad p.18)

State Boards

Connecticut

In the November JOURNAL it was reported in error that Foster D. Clark of Torrington was appointed to the Board. Floyd W. Adams, Middletown, was reappointed for a two-year term.

The following officers have been elected: President, N. M. Hotchkiss, Norwalk; secretary, C. Raymond Watts, Hartford; treasurer, Dr. Adams, reelected.

Indiana

The next examinations will be held by the Board at Indianapolis, June 16, 17 and 18, 1942.

Iowa

The next examinations before the Iowa State Board of Osteopathic Examiners will be held at the Capitol Building, Des Moines, January 26-28, 1942. For application blanks and other information, address D. E. Hannan, Secretary, Suite 202 Bruce-McLaughlin Building, Perry.

The Iowa Board of Examiners in the Basic Sciences will conduct a written examination at the Capitol Building, Des Moines, January 13, 1942, at 9:00 a.m. Address Ben H. Peterson, Ph.D., Secretary, Coe College, Cedar Rapids.

Kansas

The next examinations will be held at the Jayhawk Hotel, Topeka, February 19, 20 and 21, 1942. For additional information address Earl H. Reed, Secretary, Topeka.

Louisiana

The following officers were elected in October: President, W. L. Stewart, Alexandria; secretary, V. L. Wharton, Lake Charles; treasurer, Paul W. Geddes, Shreveport.

Minnesota

The next basic science examinations will be held on January 6, 1942, at the University of Minnesota. Address the secretary, J. C. McKinley, M.D., University of Minnesota, Minneapolis.

New Mexico

The members of the New Mexico basic science board were appointed in October. L. M. Pearsall, Albuquerque, will represent the osteopathic profession.

Vermont

The next examinations of the Vermont Board of Osteopathic Examination and Registration will be held at Montpelier, January 28 and 29, 1942. Application blanks may be secured from the secretary, R. L. Martin, 24 Elm Street, Montpelier.

West Virginia

The next examinations will be held at the office of Harwood James, New Lilly Bldg., Beckley, February 9 and 10, 1942. Applications should be filed not later than February 1, 1942. Application blanks may be secured by writing Guy E. Morris, Secretary, 542 Empire Bank Building, Clarksburg.

Conventions and Meetings

Announcements

American Osteopathic Association, Forty-Sixth Annual Convention, Los Angeles, week of July 5, 1942. Program chairman, Otterbein Dressler, Philadelphia.

American College of Neuropsychiatrists, Benjamin Franklin Hotel, Philadelphia, June 20 and 21, 1942.

Eastern Osteopathic Association, New York City, March, 1942. Program chairman, Chester D. Losee, Westfield, N. J.

Florida, Hotel Osceola, Daytona Beach, tentative dates May 25-27, 1942. Program chairman, J. M. Farrar, Miami.

Indiana, Spink-Arms Hotel, Lake Wawasee, September 20-22, 1942. Program chairman, V. B. Wolfe, Walkerton.

Iowa, Savery Hotel, Des Moines, May 6, 7, 1942. Program chairman, Mary E. Golden, Des Moines.

Massachusetts, Copley Plaza, Boston, January 17, 18, 1942. Program chairman, Nelson D. King, Cambridge.

Minnesota, Hotel Nicollet, Minneapolis, May 1, 2, 1942. Program chairman, Will H. Flory, Minneapolis.

Montana, Missoula, 1942. Program chairman, Asa Willard, Missoula.

Nebraska, Lincoln, 1942. Program chairman, Ivan P. Lamb, Palisade.

New Hampshire, Concord, May 23, 1942 (Tentative).

New Jersey, Ambassador Hotel, Atlantic City, December 6, 7. Program chairman, Harold W. Christensen, Summit.

New Mexico, Santa Fe, September 6 and 7, 1942. Program chairman, C. A. Wheelon, Santa Fe. Mid-year meeting, Raton, April, 1942.

New York, Rochester, October, 1942.

Pennsylvania, Pittsburgh, 1942.

South Carolina, Columbia, some time between May 11 and 14, 1942. Program chairman, Nancy A. Hoselton, Columbia.

Vermont, Rutland, some time between September 15 and October 15, 1942. Program chairman, C. D. Beale, Rutland.

West Virginia, Clarksburg, May 24-26, 1942. Program chairman, Robert E. Coda, Morgantown.

Wyoming, Cheyenne, May, 1942.

OFFICIAL AND AFFILIATED ORGANIZATIONS

CALIFORNIA

Alameda County Osteopathic Society

The speaker on October 12 was Wayne Dooley, Los Angeles.

The subject scheduled for discussion on November 11 was "The State Civilian Medical Program."

The officers were reported in the August JOURNAL. However, since then Frank H. Martin, Oakland, has replaced Glennard E. Lahrson, Oakland, as secretary-treasurer.

The following committee chairmen have been appointed: Membership, Muriel Morgan Chapman, Berkeley; public health and child welfare, Clara MacFarlane Miller, Alameda; public and professional welfare, Jack Goodfellow; hospitals and clinics, Roger A. Peters; censorship, H. M. Katz; publicity, David B. Bosworth; convention program, Lily G. Harris, and legislation, Bert Tardieu, all of Oakland.

Citrus Belt Osteopathic Society

The speaker at the meeting on October 9 at Mapes was Harriet L. Connor, Los Angeles, on "The Endocrine Aspects of Gynecology."

A meeting was scheduled for November 13.

East Bay Osteopathic Physicians' Luncheon Club

The following spoke at meetings in October: Hyman M. Katz, D. B. Bosworth, William T. Barrows, Jacquelin Bryson. Those scheduled to speak in November were W. S. Carey, Muriel Morgan Chapman, Eugene C. Darnall, and Jack Goodfellow. All are from Oakland.

Fresno County Osteopathic Society

The following are the present officers: President, Wilbur A. Lose, Friant; president-elect, C. H. Wimmer, Coalinga; secretary-treasurer, Alden Hazen, Reedley.

The following committee chairmen have been appointed: Membership, J. A. Aaronson; public and professional welfare, Julius Larner; hospitals and clinics, R. F. Wallace; censorship, I. S. Wallace; public health and child welfare, Frank MacCracken; publicity and convention program, Betsy B. MacCracken; legislation, Lanier N. Pearson, all of Fresno.

Glendale Osteopathic Society

A representative from the State Narcotic Enforcement Office, Lt. Chitwood, was scheduled to address the November 12 meeting on "The Physician's Part in the Enforcement of Narcotic Laws."

Kern County Osteopathic Society

The officers were reported in the August JOURNAL. The following committee chairmen have been appointed: Public health and child welfare, M. L. Hotten, Arvin; publicity, A. J. Priester, Bakersfield; convention program, C. W. Johnson, Taft; legislation, A. M. Tuttle, Bakersfield.

Long Beach Osteopathic Society

On October 15, Laurence Houts, Long Beach, discussed "Diagnosis, Pre- and Postoperative Care of Cataract," and J. J. Dunning, Los Angeles, also spoke.

The following are the present officers: President, Ward G. DeWitt; president-elect, Samuel A. Reese; secretary-treasurer, Claire E. Pike, all of Long Beach.

The following committee chairmen have been appointed: Membership, Jack Sturgess; public and professional welfare, Margaret Moore; hospitals and clinics, Charles R. Poitevin; censorship, Rufus Davis; public health and child welfare, Georgia Clark; publicity, Rachel E. Jenkins; convention program, Bruce MacEwing; legislation, Henry F. Miles, all of Long Beach.

Los Angeles City Osteopathic Society

Optometrists of Los Angeles and its suburbs were to be guests at the meeting scheduled for November 10. Spencer R. Atkinson, D.D.S., a member of the faculty of the U.S.C. College of Dentistry was to speak on "Head Hunting."

South Side Osteopathic Society of Los Angeles

In the series of lectures on "Practice Building," W. T. Hurt, Los Angeles, was to discuss "How to Build an Office Practice" on November 10.

The officers were reported in the August JOURNAL. The following committee chairmen have been appointed: Membership, J. C. Humphrey, South Gate; public and professional welfare, B. H. Allison; hospitals and clinics, L. J. Novotny; public health and child welfare, G. F. Schmelzel; industrial and institutional service, H. J. Haysom; publicity, H. S. Giles; convention program, G. O. Cooper, all of Los Angeles, and legislation, R. C. Ireland, Inglewood.

West Los Angeles Osteopathic Society

"Acute Conditions of the Lower Back Region" was to be discussed on November 11, with H. E. Litton and W. W. Jenney, both of Los Angeles, as the speakers.

The following are the present officers: President, Wayne Wagenseller, and president-elect, William O. Gamble, both of Beverly Hills; secretary-treasurer, J. H. Goldner, Hollywood.

The following committee chairmen have been appointed: Membership, B. S. Collins, Santa Monica; publicity, Dr. Goldner; convention program, Dr. Gamble; legislation, Alfons I. Wray; public health and child welfare, Dr. Helen Gaddis, all three of Beverly Hills; public and professional welfare, R. W. MacCorkell; hospitals and clinics, C. H. Lyon; censorship, H. A. Bashor, all of Los Angeles.

Los Angeles County Osteopathic Society

The officers were reported in the August JOURNAL. In addition, Karl Brigandi, Los Angeles, has been elected secretary-treasurer.

The following committee chairmen have been appointed: Membership, B. J. Chapman; hospitals and clinics, Howard B. Norcross; censorship, Earle L. Garrison; public health and child welfare, Florence Whittell; publicity, Dr. Brigandi; convention pro-

gram, H. Brinton Allison; legislation, William D. Baker; public and professional welfare, Louis Bartosh, all of Los Angeles.

Northern California Osteopathic Surgical Society

W. T. Barrows and Jack Goodfellow, both of Oakland, reported on the recent Detroit meeting of the A.C.O.S., at the meeting on October 28.

Orange County Osteopathic Society

In a forum type discussion on "Nutrition," on October 9, Prof. H. B. McWilliams, of the Nutrition and Deficiency Forum of Los Angeles, discussed "Amino Acids." A meeting was scheduled to be held on November 13.

Pasadena Osteopathic Society

On October 16 the subject was "Appendicitis," with Maurice H. Simmers and Howard Coke, both of Pasadena, as speakers.

"Anesthesia," was to be discussed on November 27 by John S. Stratton, Alhambra, and J. Gordon Epperson, San Marino.

Sacramento Valley Osteopathic Society

The officers were reported in the November JOURNAL. The following committee chairmen have been appointed: Membership, Paul Phares, Woodland; public and professional welfare, L. H. Rockhill, Lodi; hospitals and clinics, O. E. Vanosse, Stockton; censorship, Russell J. Tuche, Redding; public health and child welfare, Mary E. Giles, Chico; insurance, Eugene Spivey, Maxwell; convention program, Donald Webb, Elk Grove, and Lester R. Daniels, Sacramento; publicity, Dorothy Patterson; legislation, S. E. Curran, veterans' affairs, Roy Buchman; military affairs, C. S. Wells, all of Sacramento.

San Diego Osteopathic Society

The officers were reported in the July JOURNAL. The following committee chairmen have been appointed: Membership, J. A. Donovan; public and professional welfare, E. A. Pelsma; hospitals and clinics, H. P. Foley; censorship, G. H. Walker; public health and child welfare, H. D. Thompson; publicity, W. R. Sanford; convention program, R. K. Schiefer; legislation, E. B. Houghtaling, all of San Diego.

San Francisco Osteopathic Society

On November 13, Thomas L. Morgan, San Francisco, who attended the 1941 session of the Denver Polyclinic and Postgraduate College, was scheduled to discuss "Pointers on Technic."

The following are the present officers: President, Russell Alley; vice president, W. W. Vanderburgh; secretary-treasurer, Donald Fleming, all of San Francisco.

The following committee chairmen have been appointed: Membership, James W. Van De Wege; public and professional welfare, S. H. Hamilton; hospitals and clinics, J. V. Parisi; censorship, Dr. Morgan; public health and child welfare, H. F. Hull and I. A. Perry; publicity, Dr. Fleming; convention program, Dr. Perry; legislation, Dr. Vanderburgh, all of San Francisco.

San Jose District Osteopathic Society

Wesley H. Taylor, Redwood City, spoke on "Asthma" on October 4.

At the meeting on November 1, the Nutrition and Deficiency Forum of Los Angeles was scheduled to provide the program.

The following are the society's present officers: President, Charlotte L. Braginton, Salinas; president-elect, Wesley H. Taylor, Redwood City; secretary-treasurer, Clinton Zobel, Salinas.

The following committee chairmen have been appointed: Membership, Una Cary, Pacific Grove; hospitals and clinics, Richard Eby, Monterey; censorship, S. Edith Robb, Palo Alto; public health and child welfare, Pearl Oliphant, Santa Cruz; convention program, Dr. Braginton; publicity and public and professional welfare, Helen Shelley, and legislation, Fred O. Edwards, both of San Jose.

DELAWARE

State Society

The following were scheduled to address the meeting on November 20: Henry George, III, "Atrophic Arthritis;" F. Joseph Berlin, "Hypertrophic Arthritis;" and Merritt G. Davis, "Rheumatic Fever." All are from Wilmington.

HAWAII

Territorial Society

The officers were reported in the August JOURNAL. The following committee chairmen have been appointed: Membership, Elizabeth Gladding; publicity, Mabel A. Runyan; convention program, Josephine Morelock; convention arrangements, Vivian Clark; legislation, Isabelle Morelock, all of Honolulu.

IDAHO

South Central Idaho Osteopathic Society

On October 20 at Jerome, L. A. Peterson, Twin Falls, discussed the general subject, "Endocrinology," which was followed by a round table discussion.

ILLINOIS

Chicago Osteopathic Association

At the meeting on November 6, motion pictures were shown of "Colles Fracture," and "Effect of Medication on the Gastrointestinal System." Mr. Paul E. Johnson, Director of Universal Physical Therapy Equipment, Chicago, discussed "The Value of Electrotherapeutics in Office Practice."

Chicago—South Side Osteopathic Physicians' Society

The subject discussed at the October 30 and November 6 meetings was "Spinal Tissue Findings in Certain Diseases." On November 13, Ruth Bowman, Chicago, spoke on "Biochemistry in Surgery."

Chicago—West Suburban Osteopathic Society

At the meeting on November 8, M. C. Beilke, Chicago, showed colored still and motion pictures of a recent trip west, and E. F. Worsley, M.D., D.O., Downers Grove, spoke.

Tri City Osteopathic Association

The following officers were elected on October 31; President, Theodore M. Tueckes; vice president, L. A. Nowlin; and secretary-treasurer, George C. Boston, all of Davenport, Iowa. Lydia T. Jordan is chairman of public relations, and Augusta Tueckes, of professional affairs, both of Davenport.

Seventh District Illinois Osteopathic Association

The state president, C. E. Cryer, El Paso, addressed the meeting on October 13 at Ottawa. A. W. Mattern, Green Bay, Wisconsin, discussed "Congenital Deformities of the Lower Back Region," illustrating his talk with motion pictures and x-ray studies. R. C. Slater, LaSalle, reported on state society activities.

On November 13, at Kankakee, A.O.A. films demonstrating osteopathic technic were shown. Walter J. Dohren, Chicago, discussed "Diseases of the Gastrointestinal Tract," and a round table discussion was held.

The December meeting was scheduled to be held at Joliet on the 11th.

Eighth District Illinois Osteopathic Association

At Alton, on November 9, C. E. Cryer, state president, discussed "Association Affairs." W. E. Englehart, St. Louis, Mo., discussed "Treatment of Asthma," and demonstrated rib technic.

A meeting is scheduled to be held in Centralia, January 18, 1942.

INDIANA

Northeastern Indiana Osteopathic Association

"The Manipulative Treatment of Pneumonia," was discussed by E. R. Horton, Jr., Ft. Wayne, at the meeting on October 15 at Ft. Wayne, followed by an open discussion of the subject.

A meeting was scheduled to be held at Auburn on November 19.

Northern Indiana Osteopathic Association

The subject of premarital and prenatal examinations was discussed on October 8.

Speakers at the meeting on October 15 were F. E. Warner, Bloomington, state president, and Paul van B. Allen, Indianapolis.

The following officers were elected on October 15: President, James H. McCormick, and secretary-treasurer, Harvey L. Landis, both of Elkhart; vice president, Ernest B. Decker, Goshen.

A meeting was scheduled to be held October 22 at which "The Cardiac Arrhythmias" were to be discussed.

IOWA

Boone County Osteopathic Society

This society was organized on October 20 with the following officers: President, R. P. Westfall; secretary-treasurer, Arley Edgerton, both of Boone.

Wapello County Osteopathic Society

The following officers were elected in September: President, Ethel L. Becker; secretary-treasurer, Harry E. Wing, reelected, both of Ottumwa.

First District Iowa Osteopathic Association

The president was named in the November JOURNAL. The following also were elected on October 5: Vice president, Byron A. Wayland, Cedar Rapids; secretary-treasurer, reelected, G. A. Whetstine, Wilton Junction.

Second District Iowa Osteopathic Association

The following officers were elected on October 8; President, Clive R. Ayers, Grant; vice president, J. A. Kline, Malvern; secretary-treasurer, Bernice Worth DeConly, Council Bluffs.

Third District Iowa Osteopathic Association

Speakers at the meeting on October 10 were O. Edwin Owen, Des Moines, "The Problem of Anemia," illustrated by natural color microphotographic slides, and "New Advances in Therapeutics;" and Holcomb Jordan, state president, Davenport.

The following officers were elected on October 10: President, J. O. Ewing, Bonaparte; vice president, H. L. Cloyed, Blakesburg; secretary-treasurer, G. W. Loerke, Ottumwa.

Fourth District Iowa Society of Osteopathic Physicians and Surgeons

The officers were reported in the November JOURNAL. The following committee chairmen have been appointed: Membership, W. L. Tindall, Woden; hospitals, W. D. Andrews, Algona; censorship, J. R. Forbes, Swea City; public health and education, S. W. Meyer, Algona; industrial and institutional service, J. R. Shaffer, Mason City; convention program and convention arrangements, H. D. Wright, Hampton.

Sixth District Iowa Society of Osteopathic Physicians and Surgeons

The following spoke on the program at Nevada on October 9: J. K. Johnson, Jr., Jefferson, "Varicose Vein Treatment," illustrated with motion pictures; E. F. Leininger, "Vitamin Fads and Fancies;" John Q. A. Mattern, "Endocrine Hazards;" W. P. Kelsey, "Drug Problems," and O. Edwin Owen, "The Problem of Anemia." All are from Des Moines.

The following officers were elected on October 9: President, J. K. Johnson, Jr., Jefferson; vice president, John Q. A. Mattern, Des Moines; secretary-treasurer, N. A. Cunningham, Marshalltown.

KANSAS

South Central Osteopathic Society of Kansas

Meetings were held on September 25 and October 23 at which problems of the state society were discussed.

LOUISIANA

State Society

Speakers at the state convention in Baton Rouge, October 25 and 26, were Wiley O. Jones, Orange, Texas; Leon B. Sanchez, Baton Rouge; Stephen N. Farnum, New Orleans; and Paul M. Campbell, Minden.

The following officers were elected on October 25: President, R. H. Walton, New Orleans; vice president, Paul Geddes, Shreveport; secretary, J. A. Keller, Jennings; treasurer, Coyt Moore, Baton Rouge. J. Miller Forcade, DeRidder, is editor.

The following committee chairmen have been appointed: Legislation, James R. Kidwell, Baton Rouge; membership, V. L. Wharton, Lake Charles; ethics, A. Edgar Stanton, Crowley; public health and education, Henry Tete, New Orleans; industrial and institutional service, Charles C. Rahm, Hammond; publicity, M. R. Higgins, Lafayette; statistics, Dr. Moore; convention program, Paul M. Campbell, Minden.

MAINE

York County Osteopathic Society

At the meeting on October 23 the lie detector was demonstrated by Paul B. Harbour, Boston, who also spoke on "Modern Treatment of Psychopathic Cases."

MASSACHUSETTS

State Society

The following are to speak at the 39th annual convention in Boston, January 17 and 18, 1942: Thomas R. Thorburn, New York City; Orel F. Martin, Boston; Clifford C. Knox, Portland, Me.; Frederick A. Long, Philadelphia, Pa.; Dale S. Atwood, St. Johnsbury; Gervase C. Flick, Chestnut Hill. Perrin T. Wilson, Cambridge, and Richard E. Martindale, Cranston, R. I., will conduct postgraduate courses in osteopathic technic. Dr. Wilson will lecture on "Tic Douloureux and Allied Lesions," illustrating his talk with a motion picture film, "Anterior Occiput Technic." Dr. Martindale's subject will be "Sacroiliac and Allied Lesions," illustrated with motion pictures.

Connecticut Valley Osteopathic Association

At the meeting in Springfield on October 21, Laurence M. Blanke, Dedham, discussed "Peripheral Vascular Disease."

On November 18, John A. MacDonald, Boston, discussed "Short Leverage Technic in Bursitis and Neuritis of the Shoulder."

Mystic Valley Osteopathic Society

The speaker at Reading, October 16, was Karnig Tomajan, Boston, whose subject was "Surgical Highlights with Case History Presentation." R. V. Marsolais, Melrose Highlands, gave a business report.

Norfolk County Osteopathic Society

The speaker on October 30 at Quincy was Orel F. Martin, Boston, of the staff of the Massachusetts Osteopathic Hospital, on "Acute Abdominal Conditions."

The society was reorganized at this meeting and the following officers elected: President, George E. Cox, Hyde Park; secretary, Ralph G. Bussler, Quincy; treasurer, reelected, John E. McGinty, Quincy.

A meeting is scheduled for December 1 at Quincy, with Wallace P. Muir, Boston, speaking on "The General Practitioner and Proctological Conditions."

Southeastern Massachusetts Society of Osteopathic Physicians

A reorganization meeting was held on October 21 at which the speakers were John A. MacDonald, "Short Leverage Treatment of Bursitis," and Wallace P. Muir, an illustrated lecture on "Proctology." Both are from Boston.

A meeting was scheduled for November 8 with Orel F. Martin, Boston, as speaker.

Worcester District Osteopathic Society

On November 5, Philip S. Taylor, Springfield, spoke on "Technic."

MICHIGAN

State Association

The following officers were elected at the annual convention in Grand Rapids, October 28-30: President, Leroy C. Johnson, Pontiac; vice president, William H. Bethune, Grand Rapids; recording secretary, Philip E. Haviland, Detroit, reelected; treasurer, Robert K. Homan, Highland Park, reelected; statistician, W. Carl Brenholtz, Flint; executive secretary, Mr. Warren G. Hooper, Albion; editor, Rollin E. Becker, Pontiac; managing editor, Mr. Hooper. In accordance with an amendment to the by-laws a president-elect was chosen—Harold D. Hutt, Holly. Trustees: E. Frank Wood, Flint; E. Deane Elsea, Detroit; Joseph W. Norton, Farmington; Charles C. Auseon, Hillsdale.

Other committee chairmen have been appointed as follows: Professional education and professional development, E. Deane Elsea, Detroit; hospitals and public health and education, C. C. Auseon, Hillsdale; censorship, William H. Bethune, Grand Rapids; student recruiting and industrial and institutional service, E. Frank Wood, Flint; statistics, W. Carl Brenholtz, Flint; legislation, Joseph W. Norton, Farmington; displays at fairs and expositions, Harry P. Stimson, Highland Park.

Central Michigan Association of Osteopathic Physicians and Surgeons

E. E. Congdon, Lapeer, discussed "Heart Disease" on October 13.

Kent County Association of Osteopathic Physicians and Surgeons

The following were elected in November: President, Irving H. Walters; vice president, Winifred McLravy; secretary, reelected, Owen A. Rice; treasurer, Howard W. Morey, all of Grand Rapids.

Saginaw Valley Acadmey of Osteopathic Medicine

W. Curtis Brigham, Los Angeles, Calif., was guest speaker on October 8.

MINNESOTA

Minneapolis Osteopathic Society

On October 8, Grace H. Meyers reported on the Atlantic City convention of the A.O.A., and Robert M. Plasch spoke on "The Low-Back Problem." Both are from Minneapolis.

MISSOURI

Buchanan County Osteopathic Association

Anna H. Hurst and E. D. Holme, both of St. Joseph, were honored at the completion of forty years' practice in that city at a meeting attended by members of the Northwest Missouri Osteopathic Association. Dr. Hurst spoke on "The Progress of Osteopathy Since 1901," and Dr. Holme on "Modern Medicine."

The officers of the association were reported in the November JOURNAL. The following committee chairmen have been appointed: Membership, T. H. Hedgepeth; professional education, Dr. Holme; hospitals, William P. Lenz; censorship, W. W. Grow; student recruiting, Dr. Hurst; public health and education, J. G. Jewett; industrial and institutional service, E. J. Gross; clinics, W. E. Hartsock; publicity, John M. Spencer; statistics, Lester I. Tavel; convention program, C. L. Ferguson; convention arrangements, R. L. Smith; legislation, E. U. Shackelford; professional development, Albert C. Torrey; displays at fairs and expositions, Blanch R. Rennick, all of St. Joseph.

Central Missouri Osteopathic Association

On November 13, T. R. Turner, Madison, discussed "Our Standing As Physicians in Missouri," and a motion picture, "Contraception," produced by the Ortho-Gynol Company, was shown.

A meeting was scheduled to be held on December 18 at Fulton.

The following committee chairmen have been retained from last year: Membership, N. G. Christman, Paris; professional education, H. A. Gorrell, Mexico; hospitals, D. A. Squires, Fulton; censorship, Helen Rohweder, Mexico; student recruiting, W. E. Sparks, Columbia; industrial and institutional service, E. H. Bestman, Centralia; clinics, H. I. Nesheim, Mexico; publicity, J. R. Dougherty, Vandalia; statistics, R. F. Birdsong, Columbia; convention program, R. W. Wyngarden, Mexico; legislation, Ben S. Jolly, Moberly; professional development, L. E. Hutchins.

Clinton County Osteopathic Association

On October 16, R. W. Hayward, Plattsburg, and H. W. Perry, Lathrop, were reelected president and secretary-treasurer, respectively.

North Central Missouri Osteopathic Association

R. C. Slater, LaSalle, Ill., addressed the meeting on October 20.

Ozark Osteopathic Society

At Republic on November 6, Dr. K. H. Martin, Springfield, an optometrist, spoke. William L. Wetzel, Springfield, reported on the recent Missouri State convention.

St. Louis Osteopathic Association

J. S. Denslow, Kirksville, addressed the meeting on November 18 on "Some Studies of Lumbar Motion," illustrating his talk with x-ray pictures.

Southeast Missouri Osteopathic Association

The speakers on November 9 at Flat River were George L. Meehan, Festus, "Osteopathic Care in the Menopause," and D. M. Davidson, Belgrade, "Conditions Seen in Suicide and Homicide."

Southwest Missouri Osteopathic Association

A joint meeting with the Southeast Kansas Society was held on October 2 at which A. B. Crites, Kansas City, Mo., discussed "Treatment of Deafness," illustrating his talk with motion pictures.

NEBRASKA

Douglas County Osteopathic Association

The following officers were elected on October 8: President, E. M. Iverson; vice president, G. M. Rumelhart; secretary-treasurer, reelected, Arabella S. Livingston, all of Omaha.

NEW JERSEY

State Society

The first in a series of postgraduate study courses in osteopathic diagnosis and technic was held on November 2 at Trenton, at which the following spoke: C. Gorham Beckwith, Hudson, N. Y.; Geraldine W. Wilmot and William G. Richmond, both of New York City, and John R. Pike, Albany.

The following committee chairmen have been appointed recently: Legislation, James E. Chastney, Hackensack; publicity, David S. Steinbaum, Bayonne; program, Harold W. Christensen, Summit; clinics and statistics, Harry A. Sweeney, Atlantic City; public affairs, W. Irvin Atkinson, Millville; professional affairs, Harry H. Davis, Washington; editor of the New Jersey Bulletin, Dorothy H. Wilson, Montclair; censorship, Tyce Grinwis, Maplewood; insurance, J. Mahlon Beaven, Ridgewood; membership, Howard A. Lippincott, Moorestown.

Bergen-Passaic Counties Osteopathic Society

At the October meeting, William C. Schwartz, Passaic, spoke on "Plastic Surgery," and exhibited surgical instruments used in that specialty.

NEW YORK

State Society

The officers were reported in the November JOURNAL. Albert W. Bailey, Schenectady, has been appointed chairman of the Department of Public Affairs, and Alvah H. Leeds, Yonkers, chairman of the Department of Professional Affairs.

The following committee chairmen have been appointed: Legislation, John L. Brookman, Albany; compensation law board, C. M. Bancroft, Canandaigua; state and social medicine, Dr. Bailey; public relations, Omar C. Latimer, Forest Hills; council on defense and preparedness, Alexander Levitt, Brooklyn; student selection and

guidance, H. C. West, Yonkers; clinics and hospitals, F. C. Humbert, Syracuse; finance and budget, John R. Pike, Albany; membership, F. J. Beall, Jr., Syracuse; ethics, vigilance and censorship, M. Lawrence Elwell, Rochester; professional liability insurance, Thomas A. Fleming, Amityville; resolutions, Walter A. Merkley, New York City; advisory committee on therapeutics, Dr. Levitt; scholarship fund, H. B. Herdeg, Buffalo.

Central New York Osteopathic Society

The motion picture, "The Osteopathic Care of Anterior Poliomyelitis," made at the Los Angeles County Osteopathic Hospital, was shown on October 8. A representative of the Mutual Benefit Insurance Company discussed the company's health and accident policy.

On November 12, the A.O.A. film, "Psoasitis," was shown.

Hudson River North Osteopathic Society

On November 8 the speaker was Dr. Andrew Nettleship, Director of Montgomery County Laboratory, who discussed, "Hematology and the Anemias."

Long Island Osteopathic Society

On November 6 a representative of the Becton and Dickinson Company demonstrated the use of elastic bandages. A film on varicose veins was shown, and the discussion on the subject, "The Upper Back," was continued from the October meeting.

Mohawk Valley Osteopathic Society

On October 22, J. R. Miller, Rome, discussed "X-Radiance," and A. D. Wagner, Herkimer, reported on the recent state convention.

Osteopathic Society of the City of New York

On November 26 the society honored osteopathic physician members in practice thirty-five or more years.

Rochester District Osteopathic Society

C. Fred Peckham, Oswego, formerly head of the outpatient clinic of the Chicago College of Osteopathy, was guest speaker at the October 16 meeting.

Westchester County Osteopathic Society

On November 5 at White Plains, the A.O.A. motion picture, "Osteopathic Mechanics of the Pelvis," was shown. Donald Watt, Rochelle, spoke on "X-Ray Studies of the Pelvis and Lumbar Region," illustrating his talk with x-ray films.

The officers were reported in the July JOURNAL. The following committee chairmen have been appointed: Membership, Agatha P. Crocker, Scarsdale; professional education and professional development, Ernest M. Hunt, White Plains; censorship, K. Wallace Fish, Mt. Kisco; student recruiting, H. C. West, Yonkers; publicity, Carl E. Getler, Mt. Vernon; legislation, Franklin Abel, Yonkers.

Western New York Osteopathic Association

At Buffalo on October 4, Harry W. Learner, Buffalo, Charles A. Kaiser, Lockport, and Milton E. Smith, East Aurora, demonstrated and discussed individual methods of osteopathic technic.

At Niagara Falls on November 1, J. Paul Leonard, Detroit, head of the orthopedic department of the Detroit Osteopathic Hospital, discussed "Emergencies in a General Osteopathic Practice," illustrating his talk with slides.

OHIO

Lyceum Circuit

The subject discussed in all district societies except the fifth during November was "Diagnosis of Chronic and Acute Abdominal Conditions," with the following speakers: First District, Richard A. Sheppard, Cleveland; Second, Cleveland, Frank Dilatush, Dayton, November 3; Third, Alliance, James O. Watson, Columbus, November 5; Fourth, Columbus, C. L. Ballinger, Marietta, November 13; Sixth, Cincinnati, James O. Watson, Columbus, November 13; Seventh, Marietta, E. Q. Lamb, Columbus, November 6.

OREGON

Southern Oregon Osteopathic Society

The speaker on October 13 was S. G. Biddle, Los Angeles, who reported on plans for the A.O.A. convention in Los Angeles in 1942.

Bertha E. Sawyer, Ashland, was scheduled to address the society on November 3.

The following officers were reelected on October 13: President, W. W. Howard, Medford; vice president, Blaine B. Pruitt, Grants Pass; secretary-treasurer, Gladys Crandall, Ashland.

Willamette Valley Osteopathic Society

At the October meeting W. P. Goulding, Scio, spoke on "The Endocrines."

R. M. Gordon, Salem, was elected president, and George M. Larson, Jr., Brownsville, secretary-treasurer.

The November meeting at Corvallis was to be addressed by A. P. Howells, Albany

PENNSYLVANIA

North Central Pennsylvania Osteopathic Association

On October 23 the A.O.A. motion picture, "Osteopathic Care of Anterior Poliomyelitis," was shown.

The following officers were elected: President, C. S. W. Rickolt, Muncy; vice president, D. B. Turner, Williamsport; secretary-treasurer, R. H. Abbott, Muncy.

Philadelphia County Osteopathic Society

Edward G. Drew, Philadelphia, discussed "Diagnosis of Acute Conditions of the Abdomen" on November 20.

Western Pennsylvania Osteopathic Association

Perrin T. Wilson, Cambridge, Mass., addressed the meeting on October 29 on the subject of "Posture."

SOUTH DAKOTA

Southeast District of Osteopathic Physicians

Mrs. H. H. Holdridge, executive secretary of the South Dakota Tuberculosis Association, was guest speaker at the meeting on October 26, and discussed the educational program of the association and its summer children's camp in the Black Hills, Camp Wanzer.

TENNESSEE

West Tennessee Osteopathic Association

The following officers were elected on October 26: President, H. F. Bower, Union City; vice president, H. Perry Bynum, Memphis; secretary-treasurer, M. E. Coy, Jackson.

The following committee chairmen have been appointed: Membership, Dr. Coy; public health and education, L. D. Chesemore, Paris; industrial and institutional service, Dr. Bynum; convention program, W. M. Schoonmaker, Jackson; legislation, R. L. Park, Trenton; professional education, H. M. Eckerson; censorship, C. L. Baker; student recruiting and professional development, W. L. Baker; clinics, F. H. Butin; publicity, Mary B. Davis; statistics, H. Viehe, all of Memphis.

TEXAS

Dallas County Osteopathic Association

The following addressed the meeting on November 13: M. E. Sutphin, Dallas, "Taping in Athletic Injuries;" George J. Luibel, Ferris, "A Day in a Country Doctor's Practice;" and Edward C. Brann, Dallas, "The Head with Regard to General Health."

Rio Grande Valley Osteopathic Association

At the meeting in Brownsville, October 24, Lloyd W. Davis, McAllen, reported on the Atlantic City convention of the A.O.A.

VERMONT

State Association

The officers and two of the committee chairmen were reported in the November JOURNAL. The following additional committee chairmen have been appointed: Membeship Kenneth P. Wheeler, Brattleboro; professional education, Marian J. Norton, Windsor; hospitals, Raymond L. Martin, Montpelier; student recruiting, R. Kenneth Dunn, Brattleboro; public health and education, Marvin May, Brandon; industrial and institutional service, George D. Eddy, Burlington; clinics, J. Malcolm MacDonald, Rutland; publicity, Dale S. Atwood, St. Johnsbury; council on defense and preparedness, H. I. Slocum, Middlebury; convention arrangements, Clarence O. Gaskell, Rutland; professional development, John H. Blackmer, Randolph; veterans, C. Harry Vaughan, Burlington; radio, Dr. MacDonald; social security, H. K. Sherburne, Rutland; statistics, L. D. Martin, Barre.

WEST VIRGINIA

Parkersburg District Osteopathic Society

The following officers were elected on November 13: President, W. S. Irvin, Middlebourne; vice president, H. C. Toeffer, Grantsville; secretary-treasurer, Edythe M. Gates, Pennsboro.

Southern West Virginia Osteopathic Society

On October 19 A. P. Meador, Hinton, demonstrated "Bedside Technic in Acute Diseases," and Paul V. Murphy, Lewisburg, demonstrated foot technic.

The president and secretary were reported in the November JOURNAL. H. H. Cudden, Logan, has been elected vice president. The following committee chairmen have been appointed: Membership, W. H. Carr, Bluefield; hospitals, B. R. Kinter, Bluefield; censorship, E. T. Eades, Bluefield; student recruiting, C. R. Holliday; public health and education, L. O. Holliday, both of Hillsboro; industrial and institutional service, Mellie B. Ford, Rupert; clinics, R. D. Bennett, Williamsburg; publicity, Dr. Meador; statistics, John F. Schatzman, Easton; legislation, Paul V. Murphy, Frankford; professional development, W. W. Wells, Mullens.

WISCONSIN

State Association

The speakers on November 6 at the Union District meeting in Milwaukee, attended by the Fox River Valley, Madison, Milwaukee and Northwest districts, were as follows: H. F. Beam, Milwaukee, "Diet in Health;" W. E. Christner, Elkhorn; symposium on obstetrics, Ethel Crie, Richland Center, "Prenatal Care;" H. F. Stolowski, Milwaukee, "Delivery Care;" R. L. Simon, New London, "Postpartum Care;" symposium on needle surgery: P. A. Atterberry, Milwaukee, "Hernia;" C. W. Rea, Oconomowoc, "Hemorrhoids;" C. I. Groff, Milwaukee, "Varicose Veins;" D. H. Grow, Beloit, "Hypermobile Joints;" William D. McNary, Milwaukee, "Soft Tissue Osteopathy." A general surgical clinic was held in connection with the meeting and six Wisconsin doctors participated in technic demonstrations.

Milwaukee District Osteopathic Association

H. M. Ackley, Milwaukee, presented a case history, "Diabetes Insipidus," at the meeting on September 26, and E. Tracy Parker, Portland, Ore., spoke on "Practical Osteopathic Ideas."

Rock River Valley Osteopathic Society

On October 31, L. A. Dennis, Watertown, discussed "The Relation of Low-Back Pain to Sacroiliac Disorders," and "Treatment of Sacroiliac Disorders," illustrating his talk with colored motion pictures.

AUSTRALIA

The following are the present officers: President, David J. Evans; vice president, Wilfred E. Race; secretary-treasurer, L. Van Straten, all of Melbourne. All were re-elected. Virginia Farnum, Melbourne, is program chairman.

SPECIAL AND SPECIALTY GROUPS

Osteopathic Clinical Society

At Doylestown, Pa., November 9, Otterbein Dressler, Philadelphia, spoke on "The Three Stages of Nephritis." Clinics were held in the afternoon.

Rocky Mountain Conference

At the Shirley-Savoy Hotel, Denver, November 3 to 6, the following program was scheduled:

November 3—"Vaginal Hysterectomy for Chronic Subinvolution," "Laparotomy Involving Pelvic and Intestinal Surgery," "Gastroenterostomy," and "A Foreigner for Three Months," Ernest G. Bashor, Los Angeles; "Panhysterectomy," Philip A. Witt, Denver, Colo.

November 4—Symposium on Gynecology and Obstetrics, A. B. Funnell, Denver, Chairman—"Prenatal Care," P. R. Isaacson, Denver: "Conduct of the Patient in Labor," Dr. Funnell;" "Postpartum Care," William H. Brown, Denver; "Modern Obstetrical Practice," Dr. Bashor; "Preeclampsia and Eclampsia Prophylaxis," C. H. Guthrie, Denver; "Peeclampsia and Eclampsia Diagnosis," M. M. Vick, Loveland, Colo.; "Preeclampsia and Eclampsia Treatment," C. E. Gaines, Sterling, Colo.; "Habitual Abortion Etiology," J. W. Tedrick, Denver; "Habitual Abortion Preventive Treatment," Robert W. Hayes, Fort Collins, Colo.; "Management of Inevitable Abortion," C. A. Patterson, Fort Collins, Colo.; "Demonstration of Sterile Drapes for Home Delivery," C. C. Thorpe, Longmont, Colo.; "Trichomoniasis," Glenn F. Lamb, Brighton; "Sterility," H. V. Bigelow, Denver; "Dysmenorrhea," F. J. McAllister, Denver.

"Osteopathic Educational Horizon," Dr. W. Ballentine Henley, Los Angeles, President of C.O.P.S.; "Expert Osteopathic Treatment in the Convention Hall," C. L. Draper, Denver; "A Better Understanding of Pelvic Inflammatory Disease," Dr. Bashor.

Symposium on Eye, Ear, Nose and Throat, S. Read Hicks, Chairman—"Indications for the Simple Mastoid Operation." O. O. Taylor, Grand Junction, Colo.; "Direct Adenoidectomy in the Treatment of Deafness," Dr. Hicks; "Glaucoma," C. C. Reid, Denver; "Chronic Sinusitis," Dr. Thorpe; "Chronic Sinusitis," L. W. Simmons, Salida; "The Value of X-Ray in Eye, Ear, Nose and Throat Practice," Dr. Tedrick; "Indications and Contraindications for Tonsillectomy," Roy M. Wolf, Canon City, Colo.; "The More Common Injuries of the Eye," A. B. Slater, Center; "Upper Respiratory Diseases," P. Lynn Jones, Pueblo, Colo.; "Eustachian Tube Treatment in Children After Tonsillectomy," Robert W. Hays, Fort Collins, Colo.; "Treatment of Fungus Infections in the Mouth," Dr. Isaacson.

November 5—Diagnosis Symposium, R. R. Daniels, Denver, Chairman—"Acute Appendicitis and Perforated Peptic Ulcer," Dr. Daniels; "Acute Intestinal Obstruction, Hernia, Ectopic Gestation, the Colics Simulating Urinary Symptoms," Dr. Witt; "Laboratory and X-Ray Diagnosis," Dr. Tedrick; "Practical Points in Gynecological Diagnosis," Dr. Bashor; "Diagnosis of Professional Ills," M. F. Bartlett, Englewood, Colo.; "Diagnosis of Cardiac Insufficiency," J. C. Hurliman, Canon City, Colo.; "Diagnosis of Shoulder Dislocation," C. R. Starks, Denver; "Diagnosis of Chronic Appendicitis," Dr. Jones; "Diagnosis of Pregnancy," Addie K. Maynard, Grand Junction, Colo.; "Diagnosis of Pneumonia," Percy Townsley, Colorado Springs, Colo. "Marshalling Forces for Defense," Dr. Henley.

Osteopathic Therapy Symposium, Fred Johnson, Colorado Springs, Colo., chairman—"Osteopathic Therapy," Dr. Johnson; "Conduct of Practice," Noble E. Atterberry, Denver; "Treatment of Pneumonia," Dr. Thorpe; "Valuating Manipulative Therapy in Obstetrics and Gynecology," Dr. Bashor; "The Upper Ribs," U. S. G. Bowersox, Longmont, Colo.; "Upper Cervicals," R. W. Hays, Fort Collins, Colo.; "Lesions of the Eleventh and Twelfth Ribs," Dr. Jones; "Spinal Lesions Affecting the Eye," William B. Lomax, Montrose, Colo.; "Fifth Lumbar Lesions," Roy E. Dorwart, Grand Junction, Colo.; "Liver and Gall-Bladder Technic," Elmer J. Lee, Greeley, Colo.; "The Spleen in Acute Infections," C. E. Gaines, Sterling, Colo.; "Some Osteopathic Helps in Heart Problems," A. H. Wolf, Colorado Springs, Colo.; "The Shoulder Girdle," Dr. Townsley.

November 6—Orificial Symposium, F. I. Furry, Denver, Chairman—"Anatomy of the Lower Orifices," Dr. Furry; "Reflex Disturbances Arising from Orificial Pathology," Roy M. Wolf, Canon City; "Vasectomy," R. H. Hurst, Denver; "Male Circumcision," Charles E. Gaines, Sterling; "Unusual Rectal Reflexes," Dr. Vick; "Contracted Sphincter Ani," C. R. Hooper, Steamboat Springs, Colo.; "Etiology of Pruritus Ani," Dr. Maynard; "Treatment of Pruritis Ani," E. Ben Sturges, Rawlins, Wyo.; "Cryptitis," O. D. Fry, Colorado Springs, Colo.; "Anal Fissure," J. F. Bumpus, Denver; "Nonmalignant Tumor of the Rectum," G. H. Buffum, Sheridan, Wyo.; "Office Care of Gynecological Problems," Dr. Bashor; Motion Picture Symposium, E. W. Murphy, Denver, Chairman.

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Extracts

OUR INADEQUATE TREATMENT OF THE MENTALLY ILL AS COMPARED WITH TREATMENT OF OTHER SICK PEOPLE

Victor H. Vogel, *Passed Assistant Surgeon United States Public Health Service*

The deplorable conditions in many State hospitals for the mentally ill and the huge costs of this type of illness have been recently discussed in several popular magazines and newspapers of wide circulation. If, as was said, we have been pound wise and penny foolish with regard to hospital care for mental patients, there are scarcely words available adequately to describe the almost total lack of efforts being made to prevent mental illnesses from occurring or developing to the point where hospitalization is necessary.

What is being done to stem the flow of men, women, and children into mental institutions? What is being done to prevent the breakdown of the 1 child out of every 20 who is now destined to spend some time in a mental hospital? What is being done to treat early disturbances of adults so that commitment may be prevented, and to help the childish old people adjust themselves to the community and the home?

Ordinarily a person ill in the physical sense, except in acute cases, receives considerable medical attention in the physician's office or at home, and hospitalization is reserved as a last resort. Why should mental disorders be an exception to this practice? Why are many mental cases allowed gradually to develop without any medical attention until commitment must be obtained? Why is it necessary for commitment to be sought in order to get medical attention for mentally ill persons? The majority of first admissions to our State hospitals have never seen a mental specialist until they arrive at the hospital, already seriously ill, with only the prospect of sharing a psychiatrist's time with perhaps 400 other patients. Why neglect the mentally ill until they have progressed to commitment to a hospital with only a 50-50 chance of not having to die in a mental institution?

We spend fortunes for hospital care of the end products of mental disturbances but only pittances for prevention. Blindly and foolishly we continue to pay $210,000,000 a year of public funds to maintain our mentally ill in hospitals, but only about $5,000,000 for the support of mental hygiene clinics to prevent their commitment. To reverse the old adage about the forest and trees, we haven't been able to see the trees, represented by our individual early cases, because of the forest of mentally ill in the hospitals.

Besides the careless, and perhaps callous, indifference based on ignorance of the true conditions, and lack of appreciation of the magnitude of the problem, there are several reasons why this situation exists. One is the paucity of physicians trained in the care of mentally ill persons. Many cities of 50,000 to 100,000 population have no qualified psychiatrist in practice. Although 58 per cent of all hospital beds in this country are occupied by mental cases, and 50 per cent of all cases going to private physicians have emotional or mental disorders as an accompanying condition, only 1.2 per cent of all physicians in this country are psychiatric specialists.

Then, too, psychiatrists are concentrated in certain areas, particularly the eastern centers of population. Even if they were distributed evenly according to population, which would provide 1 psychiatrist for every 57,247 persons in this country, in many sparsely settled districts they would be too far apart to be available to the entire poplation. Furthermore, of about 2,300 psychiatrists in this country, approximately 54 per cent are employed in mental institutions, where they are for the most part unavailable for early treatment designed to prevent hospitalization.

Mental hygiene is peculiarly a job for a mental hygiene clinic team. Besides the psychiatrist, a social worker is needed to make investigations of the environmental conditions of the home, neighborhood, and school to which the patient is trying to adjust himself, and a psychologist is necessary to evaluate the intellect with which the psychi-

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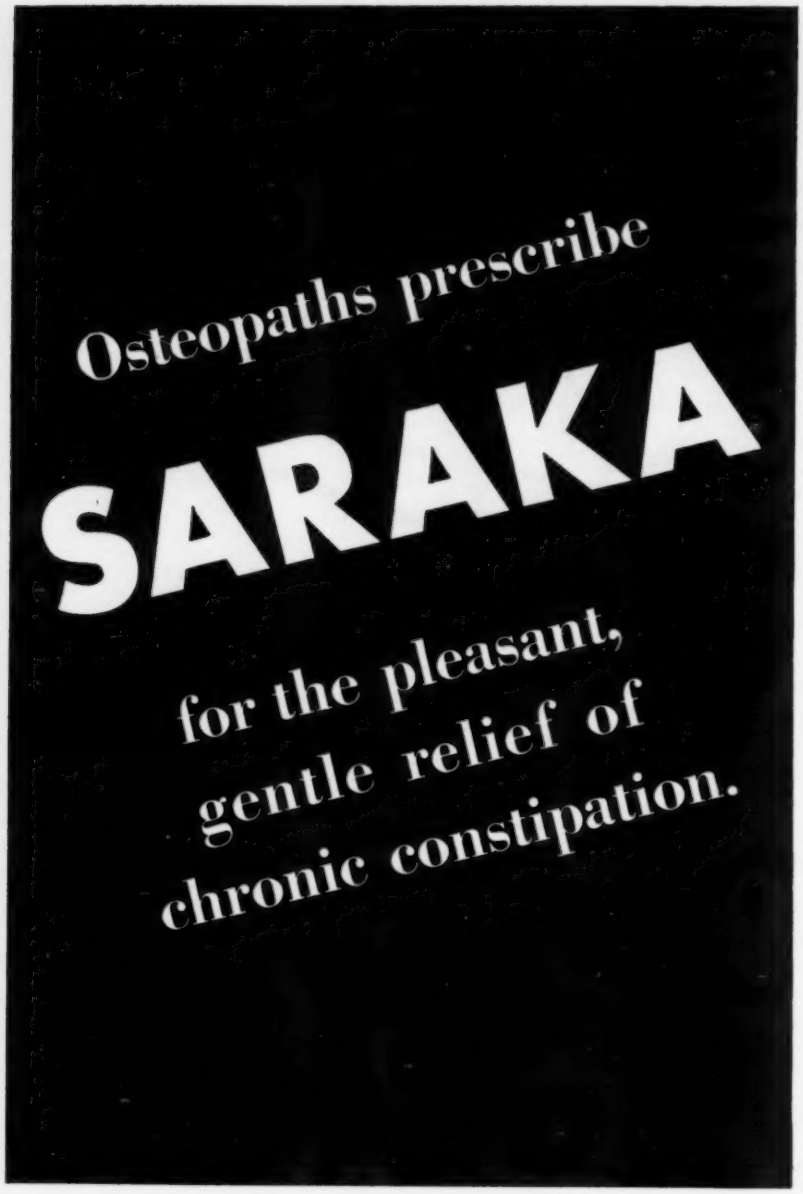

atrist must work in his treatment procedures.

The early treatment of emotional and mental disturbances which may result in incapacitating mental illness and hospital admission and the dissemination of the general principles of living which reduce the number of insolvable conflicts with the environment are the practical aims of mental hygiene. Although some psychoses are due to infections, toxic agents, including alcohol, and the deterioration of old age, most mental disturbances occur when persons are faced with what to them are intolerable situations. These may be overwhelming because of hereditary deficiencies of the individual, a weakness of the personality stamina resulting from educational and environmental forces, or a combination of these two factors. In a fully developed mental disorder this mechanism of flight from reality may be obscure; but it is likely that, at an earlier period, reaction to environmental stresses was shown as a behavior problem in a child or an emotional or neurotic reaction in an adult. The earlier these problems are recognized, the easier it is to correct them. Treatment of the child's behavior problem or the adolescent's difficulty may prevent a fully developed mental disorder.

Let us consider the distribution of these teams operating as mental hygiene clinics. Since they are specialists and command relatively high salaries, they are found chiefly in the larger centers of population. Full-time clinical service for child guidance is provided in only 27 of the largest cities of the country and is almost nonexistent in small cities and rural areas. About one-fourth of the cities over 100,000 population and almost two-thirds of the cities between 50,000 and 100,000 population have no psychiatric clinic facilities for children or adults. Even in communities favored by mental hygiene clinics there is none in which the service is adequate to the need. So we see why it is that, today, all over the country, troubled individuals are progressing, or rather, regressing, without benefit of any early medical attention, to the point of hospitalization, with consequent depressing outlook for cure.

Another reason why early medical attention is not obtained for those developing mental illnesses is the unfortunate stigma that is attached to mental disorders of all kinds, a stigma dating back to the days when insanity was believed due to demons and evil spirits, but an anachronism today. Mental illnesses have been recognized by many as deserving of medical attention for some years, but the popular attitude still too frequently attaches a vague disgrace to individuals or families in which mental illness occurs. An unfortunate tendency persists to ignore early mental signs and to avoid facing the issue by consulting a specialist in mental illnesses.

Archaic, persecutory commitment practices, which include court appearances and sometimes jury trials, help to perpetuate this attitude. In too many States the mentally ill are thrown into jail, after which they are transported to the State hospital by sheriffs, who frequently substitute handcuffs, chains, and strait jackets for humane, intelligent handling, which could be furnished by the State hospital attendants. Why should a mentally ill patient be handled as a criminal in order to get for him the treatment that he needs?

In many ways mental disorders and venereal diseases have been placed in the same category in the public mind. Both are too often considered disgraces to individual and family, issues not to be faced but suppressed and concealed as long as possible. Treatment in both types of illness has tended to be long, unsatisfactory, and expensive, and the public has been confused and defrauded by the services of charlatans and quacks. Venereal diseases are now being recognized, by the public as well as the medical profession, as illnesses, apart from moral issues, which can be successfully treated and can perhaps eventually be eliminated as major problems if attacked according to the recognized principles of public health practice. Venereal diseases can now be mentioned by name in the press and over the radio, and an increasing number of

people are able to discuss these subjects frankly and intelligently. Mental illnesses, while lacking specific treatments such as are now available for certain venereal diseases, need no longer be treated by mere isolation and punishment.

Excellent mental hygiene work has been done in certain localities by private foundations, universities, State hospital and welfare groups; but from these scattered random efforts a cohesive national program can never be resolved. The National Committee for Mental Hygiene has been active in a crusade for mental health for more than 30 years. These efforts have included an educational program, the improvement of State hospitals, the development of mental hygiene techniques, with the establishment of demonstration clinics, and fellowships for special study. But it is not the responsibility of such an organization, supported by private subscriptions, to establish adequate mental hygiene service to the Nation any more than it is its function to provide other health services.

The recognition of mental illness as a public health problem offers the support of the Nation-wide system of Federal, State, and local health organizations which can successfully apply the knowledge we now possess concerning the control of this type of illness. Passage of the Federal Social Security Act in 1935 has made it possible for the United States Public Health Service to undertake the development of mental hygiene services as a part of organized health departments throughout the country.

Approximately $11,000,000 a year is allocated to the States by the Public Health Service for the extension of general public health work in the States. Under Surgeon General Thomas Parran an effort is being made to direct some of this money into mental hygiene programs, with the ultimate aim of a mental hygiene division in the health department of every State which has not already established an effective program of mental hygiene and a mental hygiene clinic for every community which now has a general public health program. The full-time public health organizations in the 1,665 counties out of a total of 3,071 in the United States may well form the basis for an extensive mental health service.

A mother will take her problem child with less prejudice and with less hesitation to the health center where she has gone for prenatal care and immunizations and vaccinations than she would to the out-patient department of an "insane asylum." The activities of health officers in this field identify mental disorders as problems for the medical profession and problems for which there is some hope in successful early treatment and in prevention.

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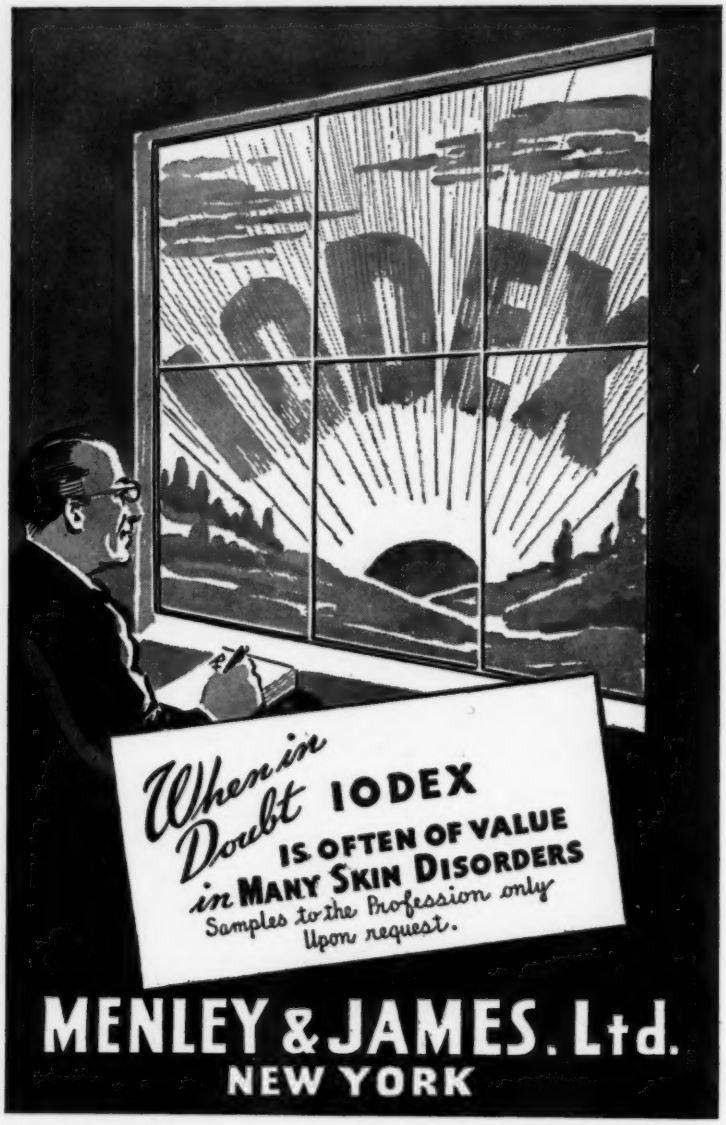
THE RAMSES METHOD OF CONTRACEPTION

A mental hygiene clinic is expensive, including as it does several specialists; and it is true that cases cannot be run through a mental hygiene clinic in the same numbers and in the same manner as they can in a vaccination clinic or a venereal disease clinic. But, expensive and time-consuming as mental hygiene efforts are, the results are correspondingly profitable.

These results are profitable with regard to both financial and human, or social, values. If, as estimated, every commitment prevented saves a State from $5,000 to $7,000, it is only necessary to eliminate three commitments a year to correctional institutions or mental institutions to pay the budget of a mental hygiene clinic. There is no doubt that the efforts of such a clinic group throughout a year accomplish this, without taking into account the improved individual and family adjustments in which institutionalization might never be a problem, a divorce saved now and then, and a suicide prevented here and there. One-third of the problems referred to good child guidance clinics are solved, and an additional third are definitely improved.

It was estimated a few years ago in Indiana that if that State's present system of community mental hygiene services were extended to cover the entire



State, from 15 per cent to 20 per cent of patients treated, who would under ordinary circumstances be committed, would not become institutional cases, thus saving the State approximately $583,440 each year. It is estimated that this State could save $284,452 more annually by the discharge of approximately 15 per cent of the institutional cases if adequate mental hygiene clinics existed for parole supervision.

The Public Health Service hopes to establish a neuropsychiatric research institute which will investigate some of the unsolved problems in this field of mental health. At the present time the estimated total annual expense for research into nervous and mental diseases in this country is only about $2,000,000., a much smaller amount than is justified by the total national cost of mental illness, which amounts to $777,000,000 every year, including both maintenance costs and economic loss due to unemployment. The Federal Government alone has paid out close to $1,000,000,000 for the care and pensioning of neuropsychiatric veterans of the last war.

The mental hygiene consultant of the Public Health Service is finding ready acceptance among the State health officers of responsibility in this field of mental disorders. Since none of the money available under the Social Security Act as grants-in-aid to the States is earmarked for mental hygiene purposes, readjustment of State budgets, with a decrease in the amount spent for other health purposes, is necessary in order to establish mental hygiene programs. Difficult as this rearrangement is, it is being done in 12 States for the fiscal year 1942, as compared with 4 which previously had a mental hygiene program in the State health department.

A special training program to equip men to do this type of work is being started at one of the leading universities this year, and a limited number of fellowships using Federal funds are available through State health departments.

The President's Committee on Medical Care, reporting in 1938, recommended that Congress make available increasing amounts up to $10,000,000 a year for a field program of mental hygiene similar to special and annual appropriations for venereal disease control. Appropriations for this purpose, however, have not been made.

In tumultuous, troubled times such as we are now experiencing, and in the days ahead, when joy gives way to anxiety and hope gives way to despair, an increase in mental disease is to be expected. Neuropsychiatric conditions are the fifth most important cause for rejection by the Selective Service boards and have resulted in approximately 63,000 men, up to May 1, 1941, being thrown back into community life with known nervous and mental disorders. Most of these individuals will receive no attention, although many of them are early cases in which treatment would be most promising.

The post-war period will be one of difficult adjustment for men relieved from military duties. It is hoped that we may have some better method of meeting this problem than mere custodial care at the hospital level and pensioning.

Faced with the enormous problem of mental disorders, a country-wide mental hygiene program is not the least of the needs that confront the Nation. Perhaps, just as the present successful campaign against venereal diseases resulted from our experience in the first World War, the present emergency will focus attention on mental disorders and result in a national, all-out, determined attack on this type of illness. It is inconceivable that this huge problem of emotional and mental illness will not eventually have accorded it the interest and financial support that it deserves.—*Public Health Reports*, October 3, 1941.

Book Notices

(Continued from page 205)

THE CRISIS OF OUR AGE: THE SOCIAL AND CULTURAL OUTLOOK. By Pitirim A. Sorokin. Cloth. Pp. 338. Price $3.50. E. P. Dutton and Company, Inc., 300 Fourth Avenue, New York City, 1941.

The author of this book, now the Chairman of the Department of Sociology at Harvard University, once was a member of the Russian Duma, was Secretary to Kerensky, comes not from the aristocracy but from the family of an itinerant artisan.

His education began with picking up a knowledge of reading and writing but much of his learning came not from books—rather from such activities as resulted in his being arrested as a revolutionist by the Czarist government, banished by the Communist government, and sentenced to death. His editorial and writing experiences have been varied, including the authorship of several books both in Russian and English.

He offers not only a full anatomy of the present world crisis, but also a magnificent philosophy of history. He holds that we are living neither through the ordinary economic or political crisis, nor through the death agony of Western society and culture. Instead we are in such a crisis as always has been produced when there is a great transition such as marks the end of an epoch—a crisis in the nature of a tragic explosion with brutality, destruction, gangsterism, war and revolution. He shows that there are involved not only economic and political considerations, but also the whole of our modern culture: Its fine arts and science, philosophy and religion, ethics and law, its forms of political, social, familial and economic organization; our ways of thought and life.

To him the remedy lies not in the mere readjustment of political or economic conditions however radical, but in a revaluation of basic values, of fundamental change in our outlook and conduct, the replacement of dying forms by a superior culture and society, which he is sure is possible.

HANDBOOK OF COMMUNICABLE DISEASES. By Franklin H. Top, A.B., M.D., M.P.H., Director, Division of Communicable Diseases and Epidemiology, Herman Kiefer Hospital and Detroit Department of Health; Associate Professor of Preventive Medicine and Public Health, Wayne University, College of Medicine; Special Lecturer in Communicable Diseases and Epidemiology, University of Michigan; Major Medical Reserve Corps, United States Army, with 7 collaborators. Cloth. Pp. 682, with 73 text illustrations and 10 color plates. Price $7.50. C. V. Mosby Co., 3523 Pine Blvd., St. Louis, 1941.

This is a compact book, well illustrated in black and white and in colors, beginning with a section on general considerations applicable to communicable diseases and then taking up, one by one, a large number of conditions classified in a somewhat unusual manner—by the common portal of entry. They are further subdivided as for instance, those of the respiratory tract caused by bacteria and those caused by viruses.

Seven authoritative collaborators have taken up respectively: Leprosy, Nursing Care and Management of Communicable Diseases in the Hospital, Tuberculosis, Pneumococcic Pneumonia, Management of Communicable Diseases in the Home, Gonorrhea and Syphilis, Chancroid, Lymphogranuloma Venereum.

CARDIAC CLINICS: A MAYO CLINIC MONOGRAPH. By Frederick A. Willius, B.S., M.D., M.S. in Med., Head of Section of Cardiology, Mayo Clinic and Professor of Medicine, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota, Rochester, Minn. Cloth. Pp. 276, with 35 illustrations. Price, $4.00. C. V. Mosby Co., 3523 Pine Blvd., St. Louis, 1941.

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The Proceedings of the Staff Meetings of the Mayo Clinic is a little publication known to many physicians. Over the past three years many short informal discussions on problems of heart disease and their management have been appearing and there have been numerous requests that they be assembled into a book. This has been done and the book is a natural outgrowth of the guiding idea which inspired Dr. Willius, several years ago, to initiate the cardiac clinic—a desire to present concise, practical discussions dealing with the heart, intended primarily for the busy general practitioner of medicine who usually is accorded little consideration by medical authors. The result is that much of these discussions is brief and to the point.

MICROBES WHICH HELP OR DESTROY US. By Paul W. Allen, Ph.D., Professor of Bacteriology and Head of the Department, University of Tennessee; D. Frank Holtman, Ph.D., Associate Professor of Bacteriology, University of Tennessee, and Louise Allen McBee, M.S., formerly Assistant in Bacteriology, University of Tennessee. Cloth. Pp. 540, with 102 text illustrations and 13 color plates. Price, $3.50, C. V. Mosby Co., 3523 Pine Blvd., St. Louis, 1941.

This book is primarily for the purpose of instructing the average layman who needs, according to the authors, to become "microbe conscious." The fact is brought out that most microbes, far from being dangerous, are helpful to humanity. Information is presented in interesting form and it is not unlikely that many physicians as well as the audience the authors had in mind, will enjoy it.

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Books Received

ARTHRITIS IN MODERN PRACTICE: The Diagnosis and Management of Rheumatic and Allied Conditions. By Otto Steinbrocker, B.S., M.D. Cloth. Pp. 606, with 321 illustrations. W. B. Saunders Company, West Washington Square, Philadelphia, Pa., 1941.

OCCUPATIONAL DISEASES: Diagnosis, Medicolegal Aspects and Treatment. By Rutherford T. Johstone, A.B., M.D., Director of the Department of Occupational Diseases, Golden State Hospital, Los Angeles, Calif.; formerly Assistant Professor of Medicine, University of Pittsburgh School of Medicine. Cloth. Pp. 558, with 132 illustrations. Price, $7.50. W. B. Saunders Company, West Washington Square, Philadelphia, 1941.

SYMPTOMS IN DIAGNOSIS. By Jonothan Campbell Meakins, M.D., LL.D., Professor of Medicine and Director of the Department of Medicine, McGill University; Physician-in-Chief, Royal Victoria Hospital, Montreal; Formerly Professor of Therapeutics and Clinical Medicine, University of Edinburgh; Fellow of the Royal Society of Edinburgh; Fellow of the Royal Society of Canada; Fellow of the Royal College of Physicians, London; Fellow of the Royal College of Physicians, Edinburgh; Honorary Fellow of the Royal College of Surgeons, Edinburgh; Fellow of the Royal College of Physicians, Canada; Fellow of the American College of Physicians. Cloth. Pp. 323, with 62 illustrations. Price, $4.00. Little, Brown and Company, 34 Beacon St., Boston, Mass., 1941.

THE UNIVERSAL CONSTANT IN LIVING. By F. Matthias Alexander. Cloth. Pp. 270. Price, $2.50. E. P. Dutton & Company, 300 Fourth Avenue, New York City, 1941.

THE HEART IN PREGNANCY AND THE CHILDBEARING AGE. By Burton E. Hamilton, M.D., Cardiologist since 1921 to the Boston Lying-in-hospital, and K. Jefferson Thomson, M.D., Associate Physician, Metropolitan Life Insurance Company Sanatorium, Mt. McGregor, N. Y.; Research Associate in Medicine, Albany Medical College; Formerly Research Fellow in Obstetrics, Harvard Medical School; Formerly Instructor in Medicine, Cornell University Medical College. Cloth. Pp. 402, with illustrations. Price, $5.00 Little, Brown and Company, 34 Beacon St., Boston, Mass., 1941.

PHYSICAL MEDICINE. The Employment of Physical Agents for Diagnosis and Therapy. By Frank H. Krusen, M.D., F.A.C.P. Cloth. Pp. 846, with 351 illustrations. Price, $10.00. W. B. Saunders Company, West Washington Square, Philadelphia, Pa., 1941.

INFANT NUTRITION: A Textbook of Infant Feeding for Students and Practitioners of Medicine. By Williams McKim Marriott, B.S., M.D., Late Professor of Pediatrics, Washington University School of Medicine; Physician in Chief, St. Louis Children's Hospital, St. Louis. Revised by P. C. Jeans, A.B., M.D., Professor of Pediatrics, College of Medicine, State University of Iowa, Iowa City. Third Edition. Cloth. Pp. 475, with 31 illustrations. Price, $5.50. The C. V. Mosby Company, 3523-25 Pine Blvd., St. Louis, Mo., 1941.

PREECLAMPTIC AND ECLAMPTIC TOXEMIA OF PREGNANCY. By Lewis Dexter, A.B., M.D., Research Fellow in Medicine, Harvard Medical School, and Soma Weiss, A.B., M.D., Hersey Professor of the Theory and Practice of Physic, Harvard University; Physician-in-Chief, Peter Bent Brigham Hospital. Cloth. Pp. 415, with 45 illustrations. Price, $5.00. Little, Brown and Company, 34 Beacon Street, Boston, Mass., 1941.

THE MICROBE'S CHALLENGE. By Frederick Eberson, Ph.D., M.D., Director of Laboratories; Pathologist, Gallinger Hospital, Washington, D.C. Cloth. Pp. 354. Price, $3.50. The Jaques Cattell Press, Lancaster, Pa., 1941.

FROM CRETIN TO GENIUS. By Dr. Serge Voronoff. Cloth. Pp. 281. Price, $2.75. Alliance Book Corporation, 212 Fifth Avenue, New York City, 1941.

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Barker, E. H., from Westmont, B. C., Canada, to Caulfeild Post Office, B. C., Canada
Battaglino, Charles B., from 2317 Federal St., to 3038-40 Federal St., Camden, N. J.
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Baughman, Willis F., from 2050 Griffin Ave., to 631¼ Brittania St., Los Angeles, Calif.
Becker, Leonard R., KCOS '41, Donovan-Harris Osteopathic Hospital, Raton, N. Mex.
Berry, Charles S., from Girard, Ill., to Rinaker Bldg., Carlinville, Ill.
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Blackman, Bernarr, from Baltimore, Md., to 5200 Huntington Ave., Newport News, Va.
Blaylock, T. Douglas, from Mehlville, Mo., to 1415 Salisbury, St. Louis, Mo.
Brewington, Margaret C., from 302½ W. Central, to Brewington Osteopathic Clinic, 924 Park Ave., Albuquerque, N. Mex.
Briscoe, R. W., from 200 Eddy Bldg., to 1403 N. Main St., Bloomington, Ill.
Brooke, Burnham, from Columbia, Mo., to Hallsville, Mo.
Buscher, Parnell F. J., from 1224 S. Norton Ave., to Los Angeles County Osteopathic Hospital, 1100 N. Mission Road, Los Angeles, Calif.
Buxton, William B., from 1129-30 First Natl Bank Bldg., to 296 Genesee St., Utica, N. Y.
Chaitin, Raymond M., from 1882 Ocean Ave., to 1877 Ocean Ave., Brooklyn, N. Y.
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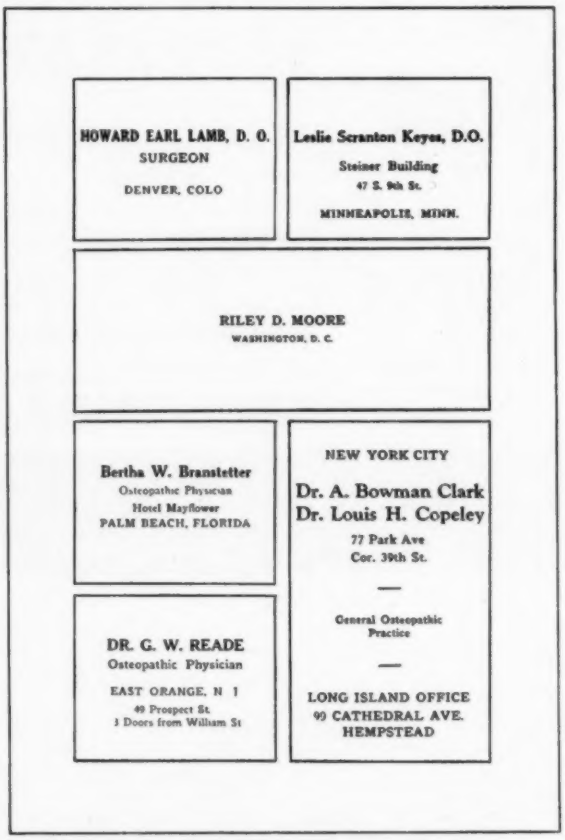

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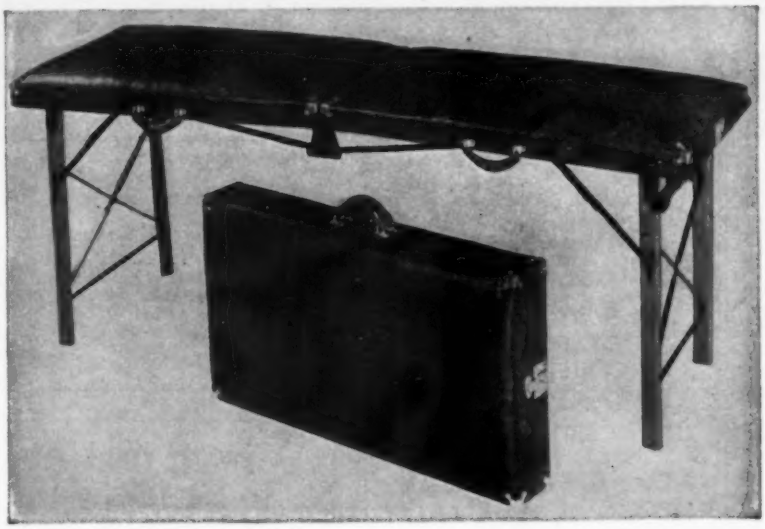

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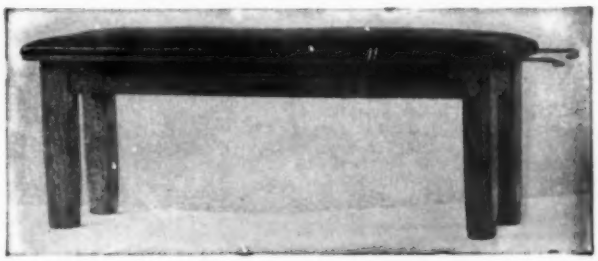

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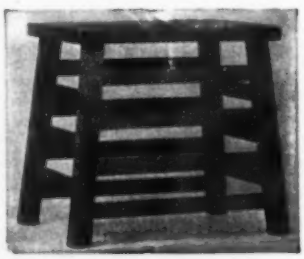

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Vance, Jack, from Saguache, Colo., to Leopold Hospital, 602 Third St., Garden City, Kans.
Veerkamp, Chester T., from Los Angeles, to 7700 Seville Ave., Huntington Park, Calif.
Vekert, C. E., from 6347 Kimbark Ave., to 6702 Stony Island Ave., Chicago, Ill.
Vosburgh, M. O., from Kingsbury, Calif., to 714 N. Irwin St., Hanford, Calif.
Ward, H. C., from Kansas City, Mo., to 605 E. Elm St., Springfield, Mo.
Warren, Kenneth E., from Wichita, Kans., to Cunningham, Kans.
Watenmaker, Herman B., from Los Angeles, Calif., to Hillside Hospital, 1940 El Cajon Blvd., San Diego, Calif.
Weeks, Marvin E., from Leedey, Okla., to Box 98, Erick, Okla.
Welsh, Winton L., from Randolph Field, Texas, to Medical Service School, Camp V, Barracks 2, Fort Sam Houston, Texas, (In Service)
Wessel, John B., from 607 S. Hill St., to 1130 W. Santa Barbara Ave., Los Angeles, Calif.
Wilcox, Helen J., from 12 S. Main St., to 58 Broad St., Salamanca, N. Y.
Wiley, Arthur M., from Cabool, Mo., to 805 Lincoln St., Brookfield, Mo.
Wilson, Charles B., from 1406 Winnemac, to 5036 N. Broadway, Chicago, Ill.
Wise, Eugene P., from 512 Bryant Bldg., to 5316 Falmouth Road, Kansas City, Mo.
Wisotsky, E. I., from 3426 City Terrace Drive, to 4107 City Terrace Drive, Los Angeles, Calif.

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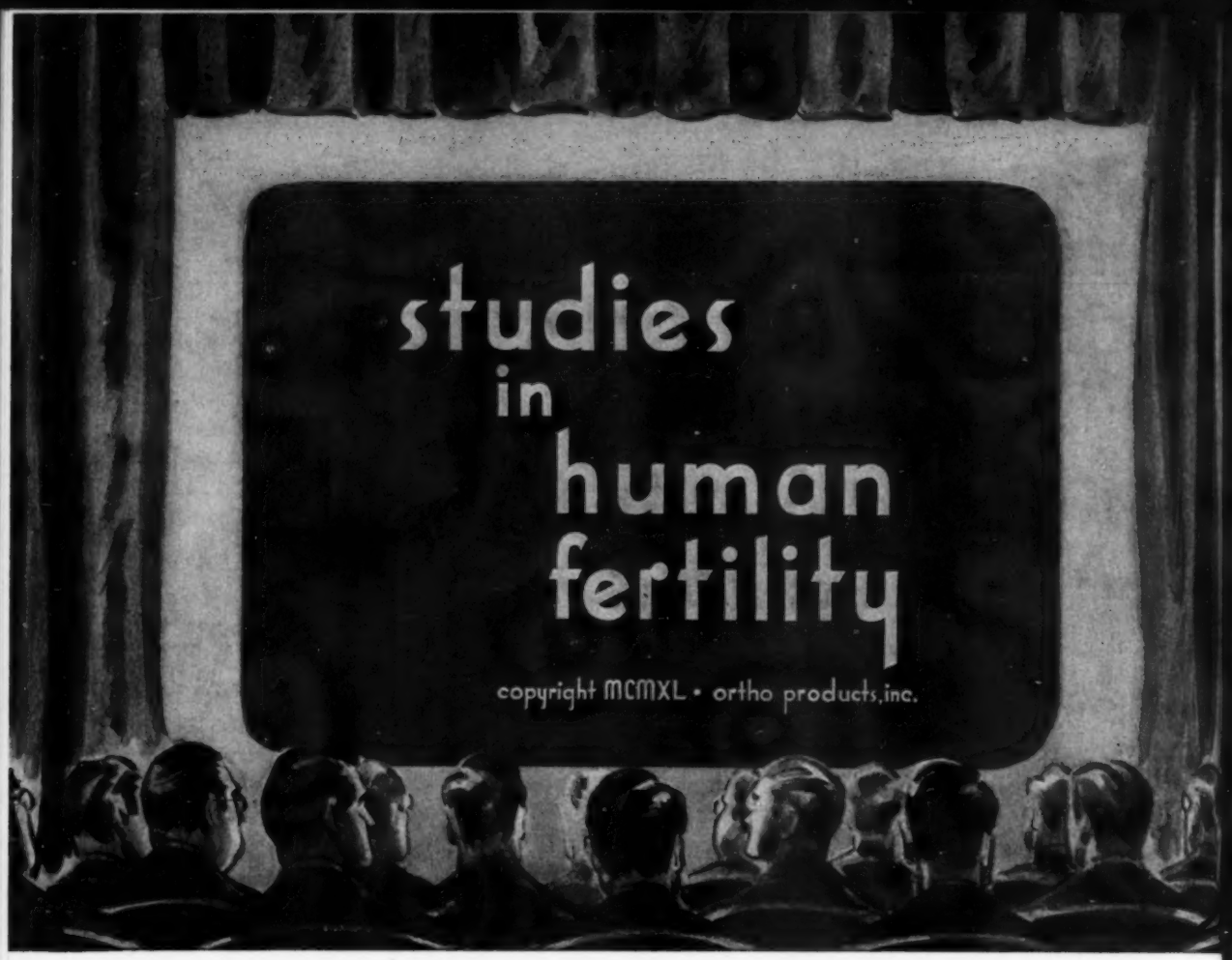

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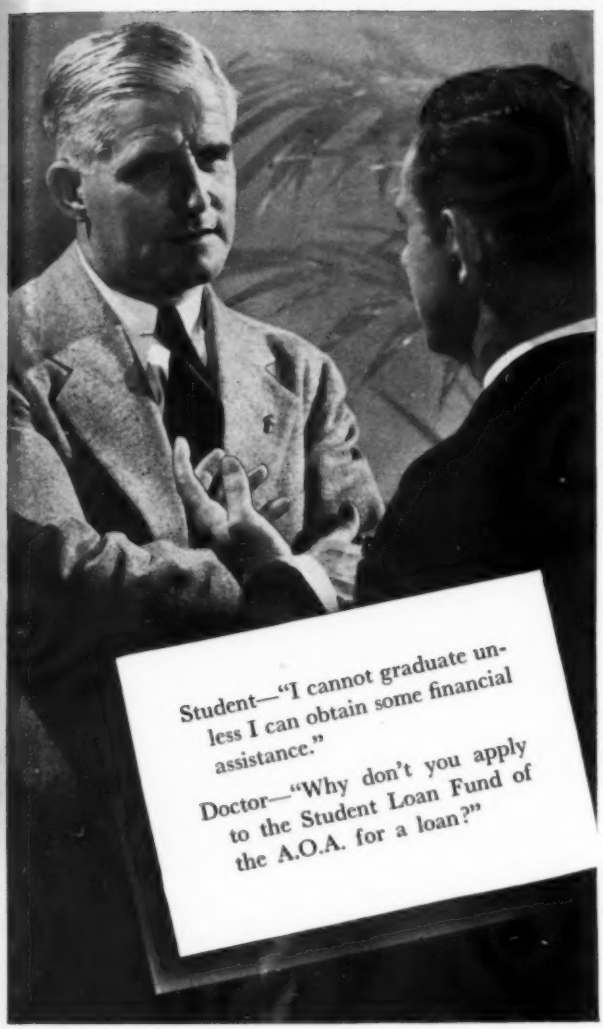
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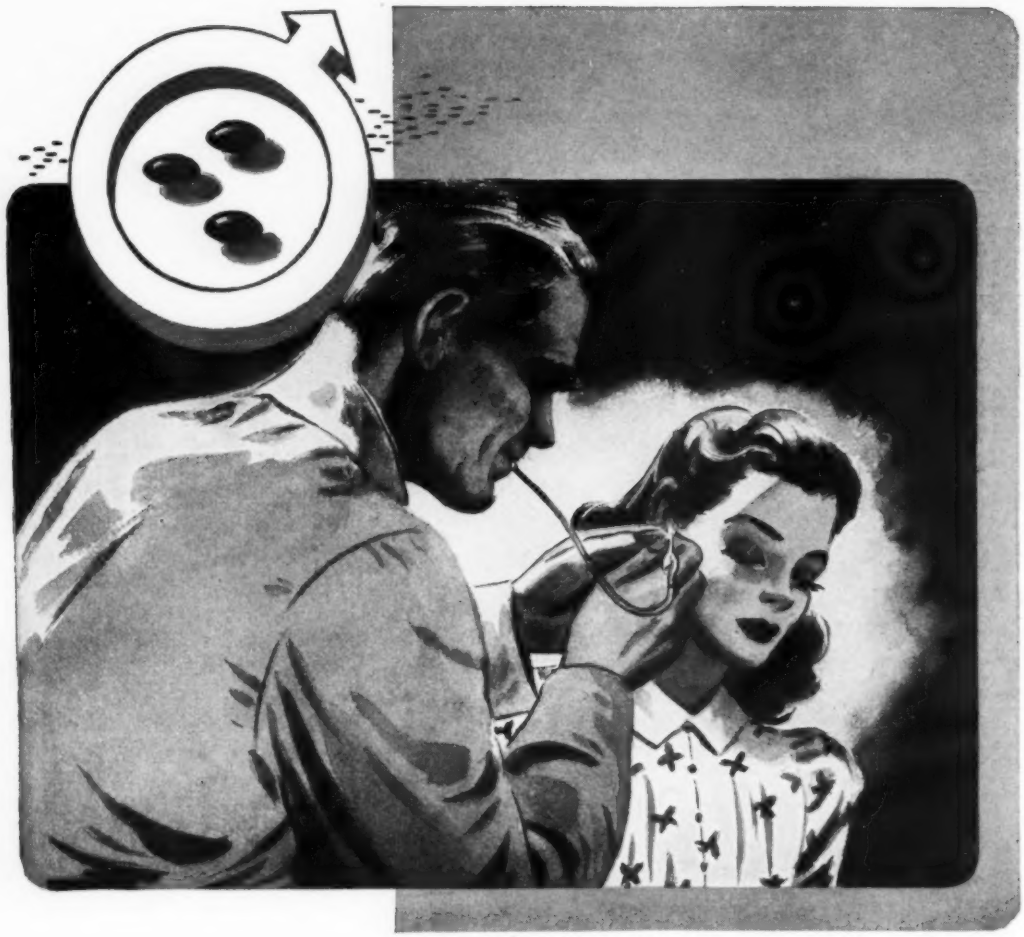

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